The splendor of Tamkang is known globally

With open arms, we extend our warmest hospitality
Towards the Fifth Wave of Tamkang University

The rapid expansion of today’s higher education has promoted the development of freedom of education and equal education. This tendency, consequentially, has transformed higher education, which originally cultivates the elite, into a universal education, and, accordingly, all of the universities no longer regard the cultivation of the elite as a goal of education. Instead, they have to respond more actively to the demand of the general public in this plural society. Therefore, a university must first of all understand its own historical legacy, cultural heritage and mission, and, moreover, what is the vision of its future development? With its four campuses, including Tamsui Campus, Taipei Campus, Lanyang Campus, and Cyber Campus, Tamkang University in a span of fifty-nine years has undergone four waves of major development—i.e. the Foundation Period, the Positioning Period, the Uplifting Period, and the Transformation Period. Within these four periods, Tamkang has developed from a regional junior college into the best comprehensive private university in Taiwan. The future development toward the Fifth Wave will shape Tamkang into a world topnotch university that has lofty ideal and innovation and one that cultivates for the nation talents who are equipped with not only professional experts but also the Five Disciplines of Education, including conduct, intelligence, physical education, teamwork, and beauty, plus “Excellence With a Soul.” Only by means of continuously surpassing itself can Tamkang build a better created future.

American educator, Barbara Miller, has pointed out that a topnotch university in the insistence of its mission and the accomplishment of its vision all need the cooperation of its administrative team, and accurately grasp as well as endeavor to carry out its dynamic strategies and governance models of the university development. As a matter of fact, Tamkang has been well equipped with the above-mentioned major requirements needed to become a topnotch global university. In one great university with four distinct campuses, we have a strong administrative team, which is actively utilizing its dynamic strategies and the four governance models of the Collegial Model, the Bureaucratic Model, the Political Model, and the Market Model. Moreover, the educational ideology of the “Three Circles and Five Disciplines of Education,” which was formed from “Professional Curriculum,” “Core Curriculum,” and “Extracurricular Curriculum,” has forged Tamkang students—under the cultivation of Globalization, Information-oriented Education, and Future-oriented Education—into Tamkangians that are well equipped with the Five Disciplines of Education as well as “Excellence With a Soul”, thus becoming the pillar of the society as well as the nation. Currently, the higher education situation of Tamkang University is comparable to the critical Epoch of the Spring and Autumn and to the Period of the Warring States in ancient China, being faced with a very keen competition. Although Tamkang, as Burton Clark ever emphasized, already possesses a strong administrative team that is capable of integrating both the internal and the external resources, and although it has won the positive recognition from the society due to its incessantly surpassing itself, yet because of the “Matthew Effect,” the strong becomes stronger, resulting in the fact that nowadays the topnotch universities around the world can continuously maintain their reputation, and enjoy the absolute supremacy with respect to educational resources, thus incessantly widening the gap with other universities. Clark Kerr in his fifth edition of The Uses of the University warns that in the sly Age of Fox with hyper transformation, universities must be able to uphold their educational core values, glorify their excellent tradition and cultural heritage, recognize the opportunity brought about by the environments, aptly adjust themselves to the transformation of the environments, and develop their unique characters; then, they will be the winners of the global competition. Therefore, Tamkang University must not be over complacent of its present situation; instead, it must perceive and act toward the trends of the development of world higher education. With the spirit of “Simplicity, Truthfulness, Firmness, and Perseverance,” we must promote the inner meaning of “Tamkang Culture” and shape the unique features of Tamkang University, so that every Tamkangian can “establish a firm foothold at Tamkang University, hold the whole world in view, grasp the latest information, and create a brighter future.” All Tamkang faculty, staff, and students must redouble their efforts and march forward unwaveringly and firmly toward the Fifth Wave.
“The greatest assets of Tamkang University lie not in the campus grounds, buildings, and costly books and facilities, but in the trustees of the Board who are wholehearted in their dedication to school administration; the devoted members of the staff and faculty who share not only the sweet but the bitter of school operations and instruction; the numerous alumni at home and overseas who are striving to promote Chinese culture and undertaking the great task of "constructing the Republic and thus forming the great Commonwealth," and, last but not least, all the students who are absorbed in academic research.”
Board of Trustees

Members of Tamkang University’s Eleventh Board of Trustees.
(From left to right: Hong-shang Hong, John C. H. Yang, Kun-yen Lee, Gregory K. H. Wang, Polly S. Chang, Yea-hong Chen, Steve Lee, Ching Nan Chen, Charles C. Lin)

[Secretary-General: James H. Chow]
Diversity in Unity, One Great University, Infinite Possibilities: Pursuing Excellence and Proceeding to a Top Quality Comprehensive University

Founded in 1950, Tamkang University is the oldest private university in Taiwan. It has gone through a series of carefully-planned stages, a continued process of innovative breakthroughs, to become an internationally recognized, comprehensive university. Renowned for its active research approach and academic excellence, the University now consists of 4 campuses, 10 colleges, 17 doctoral programs, 50 graduate programs and 51 departments, with a total of more than 28,000 students.

Tamkang University is a top quality institution in higher education. Its mission is to maintain Tamkang’s venerable heritage, to establish a new culture for society, and to nurture talent in ambitious souls. Its vision is to promote the ideals of private tertiary education to create a comprehensive prestigious academic environment. To turn this vision into reality Tamkang subscribes to values such as simplicity, truthfulness, firmness, perseverance, and offers a holistic education, academic freedom, and institutional autonomy.

During the course of its development, the University has adopted six management strategies, including: 1. sketching a wave-by-wave development blueprint and building up its four campuses; 2. realizing the Three Circles and Five Disciplines of Education and nurturing great talent; 3. implementing the Triple Objectives and creating an academic kingdom; 4. setting up the Sigmoid Curve and activating the Second Curve; 5. promoting the Matthew Effect and vying for social resources; 6. fully utilizing the Blue Ocean Strategy and generating competitive advantages. With regard to the governance of the University, four major principles are applied; that is, one strong leadership system, four management models, total quality management, and organizational revitalization. All these goals cannot be achieved, nor a sustainable campus be created, without the efforts and participation of all faculty, staff and students of Tamkang University.

The 21st century is an era characterized by discontinuity. We are now faced with many new challenges. In particular, institutes of higher education find themselves in a kind of “Warring States” scenario, where inter-university competition continues to intensify. From within this tumultuous environment, Tamkang University has emerged as a leading university and a beacon of stability. In the 2005 Ministry of Education evaluation, Tamkang ranked first among private universities in Taiwan. In 2009, Tamkang won the 15th National Quality Award. In Cheers Magazine’s 2010 survey of “One Thousand Enterprises’ Favorite College Graduates,” Tamkang topped the list of private universities in Taiwan for the 13th consecutive year. In the future, Tamkang will continue to pursue its Triple Objectives of Education, supported by its Total Quality Management mechanism. The university’s priority focus includes the following tasks: enhancing each faculty’s pedagogic ability, promoting students’ learning outcomes, heightening research performance, forging more extensive ties with industry, participating in community service, and engaging students in lifelong education. The university is committed to building high quality campus environments based on sustained efficient management. Tamkang envisions a future of constantly improving academic achievement as it carves for itself a niche among the world’s top universities.
The Tamsui Campus was built with the goal of establishing a comprehensive research university, one that “creates knowledge.” It now comprises 8 colleges, 35 departments, 50 masters programs, 21 Executive Master's Programs, 17 doctoral programs, and 16 research centers, and has a total student enrollment of more than 28,000. The Tamsui Campus aims to become a “City of Intellect” by taking pioneering steps to advance the frontiers of scholarship and research.
The Taipei Campus focuses on continuing education. Instruction is oriented toward the practical and emphasizes both theory and practice in order to cultivate professionals with a unique educational background. The Division of Continuing Education comprises an In-Service Education Center, an Extension Education Center, Japanese, Chinese and English Language Centers, and a Professional License Training Center. In addition, its Office of Professional Studies is responsible for providing teaching and administration assistance in professional studies programs. The mission of the Taipei Campus is to enhance the quality of society's human resources through continuing education.
The Lanyang Campus, occupying 40-acres, is situated on scenic Mt. Linmei in Chiao-hsi, I-lan. It comprises 2 colleges and 7 departments, with a total student enrollment of over 900. Over 90 percent of the courses are taught in English, and students are required to take a year of overseas study in their junior year. Located in a beautiful natural environment, the Lanyang campus provides accommodation for all students and faculty. Its instruction format is characterized by the Oxbridge-style tutorial system.
The Cyber Campus provides a learning environment that connects the Tamsui, Taipei, and Lanyang campuses to the rest of the world through the latest internet technology. It offers an Executive Master's Program in Educational Technology, and cooperates with Oxford University, Regent University, UC Berkeley, Université Jean Moulin-Lyon 3, Waseda University, Tokyo University of Foreign Studies, and other universities worldwide, to provide 404 synchronous and asynchronous online courses, distance learning programs, and other related courses. There are currently 31,752 students partaking in such programs. By exploring the world in this virtual platform of knowledge, learners are able to readily acquire information, share practical experiences, make good use of diverse learning resources, and fulfill their dreams of a lifelong education, anytime and anywhere.
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<tr>
<td>Founder of Tamkang University</td>
<td>Clement C. P. Chang</td>
</tr>
<tr>
<td>Chair of the Board of Trustees</td>
<td>Polly S. Chang</td>
</tr>
<tr>
<td>Secretary-General of the Board of Trustees</td>
<td>James Hsin-min Chow</td>
</tr>
<tr>
<td>President of the University</td>
<td>Flora C. I. Chang</td>
</tr>
<tr>
<td>Vice President for Academic Affairs</td>
<td>Gwo-hsing Yu</td>
</tr>
<tr>
<td>Vice President for Administrative Affairs</td>
<td>Po-yuan Kao</td>
</tr>
<tr>
<td>Vice President for International Affairs</td>
<td>Wan-chin Tai</td>
</tr>
<tr>
<td>Director of Lanyang Campus</td>
<td>Jyh-horng Lin</td>
</tr>
<tr>
<td>Secretary-General of the University</td>
<td>Ting-chi Hsu</td>
</tr>
<tr>
<td>Director of Carrie Chang Fine Arts Center</td>
<td>Chi-mao Li</td>
</tr>
<tr>
<td>Dean of the College of Liberal Arts</td>
<td>Jeong-yeou Chiu</td>
</tr>
<tr>
<td>Dean of the College of Science</td>
<td>Bo-cheng Wang</td>
</tr>
<tr>
<td>Dean of the College of Engineering</td>
<td>Chii-dong Ho</td>
</tr>
<tr>
<td>Dean of the College of Business</td>
<td>Yi-jen Hu</td>
</tr>
<tr>
<td>Dean of the College of Management</td>
<td>Chu-ching Wang</td>
</tr>
<tr>
<td>Dean of the College of Foreign Languages and Literatures</td>
<td>Mei-hwa Sung</td>
</tr>
<tr>
<td>Dean of the College of International Studies</td>
<td>Wan-chin Tai</td>
</tr>
<tr>
<td>Dean of the College of Education</td>
<td>Hsun-fung Kao</td>
</tr>
<tr>
<td>Dean of the College of Global Entrepreneurial Development</td>
<td>Ay-hwa Andy Liou</td>
</tr>
<tr>
<td>Dean of the College of Community Development</td>
<td>Jyh-horng Lin</td>
</tr>
<tr>
<td>Director of the Division of Continuing Education</td>
<td>Kuo-kung Shih</td>
</tr>
<tr>
<td>Director of the Office of Physical Education</td>
<td>Shu-feng Hsiao</td>
</tr>
<tr>
<td>Director of the Office of Military Education &amp; Training</td>
<td>Kuo-liang Chen</td>
</tr>
<tr>
<td>Dean of Academic Affairs</td>
<td>Huan-chao Keh</td>
</tr>
<tr>
<td>Dean of Student Affairs</td>
<td>Chih-en Ko</td>
</tr>
<tr>
<td>Dean of General Affairs</td>
<td>Hoang-ell Jeng</td>
</tr>
<tr>
<td>Dean of Research and Development</td>
<td>Shung-wen Kang</td>
</tr>
<tr>
<td>Director of the Personnel Office</td>
<td>Hai-ming Chen</td>
</tr>
<tr>
<td>Comptroller</td>
<td>Sin-hui Yen</td>
</tr>
<tr>
<td>Director of Library</td>
<td>Hong-chu Huang</td>
</tr>
<tr>
<td>Director of the Information Processing Center</td>
<td>Ming-dar Hwang</td>
</tr>
<tr>
<td>Director of the Center for Learning and Teaching</td>
<td>Hsin-yih Shyu</td>
</tr>
<tr>
<td>Director of Alumni Service and Resource Development</td>
<td>Chun-young Perng</td>
</tr>
<tr>
<td>Director of the Office of International Exchange &amp; International Education</td>
<td>Pei-wha CHI LEE</td>
</tr>
<tr>
<td>Director of Tamkang Times</td>
<td>Yu-pei Ma</td>
</tr>
<tr>
<td>Director of the Center for Environmental Protection Safety and Health</td>
<td>Hoang-ell Jeng</td>
</tr>
</tbody>
</table>
# ACADEMIC CALENDAR 2010-2011
## Fall Semester

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td><strong>August, 2010</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Academic year begins/Beginning of the fall semester</td>
</tr>
<tr>
<td>3</td>
<td>On-campus registration for students enrolled for 2-year in-service programs</td>
</tr>
<tr>
<td>4</td>
<td>Teachers' Evaluation and Screening Committee Meeting for the 2010-2011 academic year</td>
</tr>
<tr>
<td>9</td>
<td>Deadline to apply for admission to doctoral programs</td>
</tr>
<tr>
<td>9-September 12</td>
<td>2nd term of Summer Classes</td>
</tr>
<tr>
<td>10</td>
<td>On-campus registration and request for credit-transfer for new transfer students and students in continuing education programs</td>
</tr>
<tr>
<td>10-16</td>
<td>Telephone/Online course enrollment for undergraduates and graduates</td>
</tr>
<tr>
<td>11-12</td>
<td>Seminar for new department chairs</td>
</tr>
<tr>
<td>14-15</td>
<td>Open house day for student dormitory (Tamsui Campus)</td>
</tr>
<tr>
<td>21</td>
<td>Meeting with prospective students and their parents sponsored by alumni associations (Tamsui Campus and Lanyang Campus)</td>
</tr>
<tr>
<td>21</td>
<td>Open house day for student dormitory (Lanyang Campus)</td>
</tr>
<tr>
<td>23-27</td>
<td>2010-2011 seminar for leaders of student associations</td>
</tr>
<tr>
<td>30-September 1</td>
<td>Telephone/Online course enrollment for core courses for freshmen</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td><strong>September, 2010</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>On-campus registration for new students in continuing education programs</td>
</tr>
<tr>
<td>2-4</td>
<td>Telephone/Online course enrollment for transfer students</td>
</tr>
<tr>
<td>3-5</td>
<td>Course enrollment for new students in continuing education programs, 2-year in-service programs and graduates students</td>
</tr>
<tr>
<td>6-October 1</td>
<td>Period to validate telephone/online course enrollment</td>
</tr>
<tr>
<td>8</td>
<td>Orientation and workshops for new faculty members</td>
</tr>
<tr>
<td>9-10</td>
<td>Make-up examinations for absentees of the 2010 Spring semester final exam. On-campus registration for International Students</td>
</tr>
<tr>
<td>9</td>
<td>Orientation for new students (Including transfer students and students enrolled for in-service programs) of the Colleges of Liberal Arts, Engineering, Foreign Languages and Literatures, International Studies and Education; Medical check-ups and traffic safety training sessions for new students of the Colleges of Science, Business and Management</td>
</tr>
<tr>
<td>10</td>
<td>Orientation for new students (Including transfer students and students enrolled for in-service programs) of the Colleges of Science, Business, Management, Entrepreneurial Development, Global Entrepreneurial Development; Medical check-ups and traffic safety training sessions for new students of the Colleges of Liberal Arts, Engineering, Foreign Languages and Literatures, Education and new students not recruited via college entrance examinations</td>
</tr>
<tr>
<td>10</td>
<td>Deadline to pay tuition fee for registration</td>
</tr>
<tr>
<td>13</td>
<td>First day of Fall semester classes</td>
</tr>
<tr>
<td>15</td>
<td>Student Recruiting Committee Meeting</td>
</tr>
<tr>
<td>Date</td>
<td>Event</td>
</tr>
<tr>
<td>------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>13-20</td>
<td>Request for credit waiver for returning freshmen</td>
</tr>
<tr>
<td>20-26</td>
<td>Online/ telephone course add/drop</td>
</tr>
<tr>
<td>22</td>
<td>University closed for Mid-Autumn Festival</td>
</tr>
<tr>
<td><strong>October, 2010</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>The 116th Administrative Committee Meeting</td>
</tr>
<tr>
<td>1-29</td>
<td>Application for the 5th TKU Quality Award</td>
</tr>
<tr>
<td>4</td>
<td>Deadline for credit-transfer applications</td>
</tr>
<tr>
<td>10</td>
<td>University closed for National Day of the R.O.C.</td>
</tr>
<tr>
<td>15</td>
<td>Seminar on Innovation in Instruction and Administration</td>
</tr>
<tr>
<td>18-31</td>
<td>Mid-semester Teacher Evaluation week</td>
</tr>
<tr>
<td>20</td>
<td>School Curriculum Committee Meeting</td>
</tr>
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<td>22</td>
<td>Student Affairs Committee Meeting</td>
</tr>
<tr>
<td>25</td>
<td>1/3 of the fall semester (deadline to request 2/3 tuition refund to withdraw from the school)</td>
</tr>
<tr>
<td>25-November 22</td>
<td>Submission of request for taking graduate comprehensive examination</td>
</tr>
<tr>
<td>27</td>
<td>Academic Affairs Committee Meeting</td>
</tr>
<tr>
<td><strong>November, 2010</strong></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>The 64th University Affairs Meeting (annual budget audit)</td>
</tr>
<tr>
<td>6</td>
<td>Celebration of the 60th Anniversary of Tamkang University</td>
</tr>
<tr>
<td></td>
<td>Alumni Homecoming Day</td>
</tr>
<tr>
<td>8</td>
<td>Diamond Jubilee of Tamkang University</td>
</tr>
<tr>
<td>15-21</td>
<td>Mid-term examination week</td>
</tr>
<tr>
<td>19</td>
<td>Teachers' Evaluation Committee Meeting for the 2010-2011 academic year</td>
</tr>
<tr>
<td><strong>December, 2010</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Student Recruiting Committee Meeting</td>
</tr>
<tr>
<td>6</td>
<td>2/3 of the fall semester (deadline to request for 1/3 tuition refund to withdraw from the school)</td>
</tr>
<tr>
<td>20–January 2</td>
<td>Semester-end Teacher Evaluation week</td>
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<td>24</td>
<td>The 117th Administrative Committee Meeting</td>
</tr>
<tr>
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</tr>
<tr>
<td>1</td>
<td>University closed for New Year Holiday</td>
</tr>
<tr>
<td>3</td>
<td>Last day to request on-leave status</td>
</tr>
<tr>
<td>10-16</td>
<td>Final examination week</td>
</tr>
<tr>
<td></td>
<td>Oral defense for master's theses and doctoral dissertations</td>
</tr>
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<td>17</td>
<td>Year-end General Affairs Committee Meeting</td>
</tr>
<tr>
<td>17-24</td>
<td>Term grades available upon request via the Internet or telephone voicemail</td>
</tr>
<tr>
<td>17-25</td>
<td>Initial course enrollment for the spring semester</td>
</tr>
<tr>
<td>18</td>
<td>Office of Military Education and Training year-end Meeting</td>
</tr>
<tr>
<td>22-February 10</td>
<td>Winter recess (Feb 2: Chinese New Year's Eve)</td>
</tr>
<tr>
<td>31</td>
<td>End of the fall semester</td>
</tr>
</tbody>
</table>
# ACADEMIC CALENDAR 2010-2011

## Spring Semester

### February, 2011
- **1** Beginning of the spring semester
- **11** Full office service resumes
  - Deadline to pay tuition fees for registration
- **11-12** Make-up examinations for absentees of the 2010 Fall term final exam
- **11-March 4** Period to validate telephone/online registration
- **14** First day of Spring semester classes
- **21-27** Online/telephone course add/drop
- **28** University closed for National Peace Day

### March, 2011
- **1-8** Request for change of major for undergraduates
- **10-16** Application for admission to the Educational Program
- **11** The 118th Administrative Committee Meeting
- **14-27** Mid-semester Teacher Evaluation week
- **19** Spring Feast—Homecoming Day for alumni, Tamsui Campus
- **25** TQM seminar for administrative staff
- **25-April 25** Request for taking graduate comprehensive examinations
- **28** 1/3 of the Spring semester (deadline to request 2/3 tuition refund to withdraw from the school)
- **30** Student Recruiting Committee Meeting

### April, 2011
- **4** University closed for Children’s Day
- **5** University closed for Ancestor Memorial Day
- **6-8** School field trip days
- **15** Student Affairs Committee Meeting
- **18-24** Mid-term examination week
- **20** Student Recruiting Committee Meeting

### May, 2011
- **2-15** Submission of request for double-major and minor courses for 2011 Spring semester Teacher evaluation week for senior courses
- **2-June 19** Oral defense for master's theses and doctoral dissertations
- **4** School Curriculum Committee Meeting
  - Screening Committee meeting for Educational Program
- **9** 2/3 of the Spring semester (deadline to request for 1/3 tuition refund to withdraw from the school)
- **11** Academic Affairs Committee Meeting
- **13** Teacher Evaluation and Screening Committee Meeting for the 2011-2012 academic year
- **18** Teacher Evaluation and Screening Committee Meeting for the 2011-2012 academic year
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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</table>
| 20       | Teacher Evaluation and Screening Committee Meeting for the 2011-2012 academic year  
           | Deadline for leave/withdrawal application for graduating students       |
| 25       | General Affairs Committee Meeting                                    |
| 27       | The 119th Administrative Committee Meeting                           |
| 23-29    | Final examination week for seniors                                   |
| 23- June 5 | Teacher evaluation week (undergraduates)                           |
| 28-June 4 | Term grades available upon request via the Internet or telephone voicemail (seniors only) |

**June, 2011**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>3</td>
<td>The 65th University Affairs Committee Meeting (annual budget audit)</td>
</tr>
<tr>
<td>6</td>
<td>University closed for Dragon Boat Festival</td>
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<tr>
<td>7</td>
<td>Deadline for leave/withdrawal application for undergraduates students</td>
</tr>
<tr>
<td>8</td>
<td>Student Recruiting Committee Meeting</td>
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<tr>
<td>10</td>
<td>Make-up examinations for seniors</td>
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<tr>
<td>11</td>
<td>Commencement Ceremony</td>
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<tr>
<td>13-19</td>
<td>Final examination week</td>
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<tr>
<td>20-27</td>
<td>Semester grades available upon request via the Internet or telephone voicemail</td>
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</tbody>
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**July, 2011**

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<tr>
<th>Date</th>
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<tbody>
<tr>
<td>1-August 31</td>
<td>Summer recess (University closed on Fridays and closed all day between July 11 and July 14)</td>
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<tr>
<td>31</td>
<td>End of the spring semester</td>
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</tbody>
</table>
Established as a junior college of English in 1950, Tamkang University was not only the first private institution of higher education in Taiwan, the Republic of China, but also the first of its kind ever established by Taiwanese people. In 1958, Tamkang Junior English College was developed and its name was changed into Tamkang College of Arts and Sciences.

The school started in 1950 on a campus located on Chen Li Street in Tamsui. The College at that time offered junior and senior high school graduates, respectively, with three- and five-year non-degree undergraduate programs in courses relevant to English language and literature. Shortly thereafter, courses related to Chinese literature, mathematics, business administration, and chemistry were also offered.

In 1951 the campus on Chen Li Street soon appeared too small to serve its purposes. Then planning of a new campus with six Chinese palace-styled classroom buildings and a library was under way. This first construction project was completed in 1955, and all offices and classrooms were moved to the new site. Since then, new buildings have been established almost every year to accommodate the increasingly growing number of students and facilities required for research and public services. The new buildings include Chunglin Chemistry Hall, Administration Building, Ying-yuan Guesthouse, Student Activities Center, Sungtuo Girls’ Dormitories, Audiovisual Center, Futsu Girls’ Dormitory, Hweiwen Hall, Liuhsien Memorial Science Building, CKS Memorial Hall, Liberal Arts Building, Engineering Building, Maritime Museum, Dynamics Hall, Mechanical Workshop, Ching Sheng Memorial Hall, Business and Management Building, Second Engineering Building, faculty residences, the ultra-modern Chueh-sheng Memorial Library, Carrie Chang Fine Arts Center, Chueh-shuan Classical Chinese Garden, the six-story Shao-mo Memorial Natatorium Complex, and the College of Foreign Languages and Literatures Building.

While the new campus was still at its blueprint stage, the Board of Trustees established a campus on Po Ai Road, in downtown Taipei, in 1951, where English extension programs for adults as well as regular credit courses were offered. The buildings of this urban campus were donated to the government in 1965. A few years later, a new city campus was built on Kinghua Street. The new Taipei campus consisted of two buildings, which from 1962 to 1989 housed business and management colleges during the day, and continuing education at night.

When Tamkang was authorized to grant bachelor’s degrees in 1956, non-degree programs were terminated. Up to that time, there were only five departments: English, Chinese, Mathematics, Chemistry, and Business Administration. By 1960, a five-year program for junior high school graduates was added. This program, together with other new courses in water and soil conservation and irrigation, introduced Tamkang to the education and professional scholarship of engineering studies - a field in which the university has since excelled. These three non-degree engineering programs were soon discontinued in favor of degree-granting engineering programs.

With the rapid increase in the number and size of departments, the administrative and teaching work of Tamkang College proliferated. In 1966, in order to manage the College more effectively, the Board of Trustees divided the school into four colleges: Liberal Arts, Sciences, Engineering, and Business Administration; and the evening program soon evolved into an independent college. In 1968, the College of Business Administration became the College of Business, and later, the College of Management was established. As libraries, faculty, and teaching facilities proved sufficient for graduate education, Tamkang began an MA program in Western Languages and Literature in 1969, an MS program in Mathematics in 1970, and a Ph.D. program in Chemistry in 1975.

Currently, Tamkang University has developed 17 doctoral programs in Chinese, English, Chemistry, Physics, American Studies, Management Sciences and Decision Making, Computer Science and Information Engineering, Water Resources and Environmental Engineering, Mathematics, Civil Engineering, Electrical Engineering, Banking and Finance, Industrial Economics, Mechanical and Electro-Mechanical Engineering, Chemical and Materials Engineering, European Studies, and International Affairs and Strategic Studies. The number of master’s programs amounts to 50, currently covering such comprehensive fields as Chinese, China Studies, English, European Studies, American Studies, Asian Studies, Mathematics, Physics, Chemistry, Civil Engineering, Chemical and Materials Engineering, Computer Science and Information Engineering, Mechanical and Electro-Mechanical Engineering, Water Resources and Environmental Engineering, Electrical Engineering, Architecture, International Affairs and Strategic Studies, International Trade, Banking and Finance, Business Administration, Information Management, Industrial Economics, Information and Library Science,

As for undergraduate programs, Tamkang has developed from a junior college offering only English into a comprehensive university with 10 colleges, namely liberal arts, science, engineering, business, management, foreign languages and literatures, international studies, education, global entrepreneurial development, and community development. To sum up, the 10 colleges of Tamkang University are comprised of 51 departments and divisions, 50 master's programs, and 17 doctoral programs.

After more than 60 years of development, Tamkang now has a student enrollment of 28,000, more than 2,200 faculty and staff, and four campuses: the Tamsui Campus, the Taipei Campus, the Lanyang Campus, and the Cyber Campus. The Lanyang Campus is located in I-lan County, and started to recruit students in 2006. In addition to educating undergraduate and graduate students, Tamkang University hosts a number of international conferences, provides for cultural interaction, offers technological services to the northern Taiwan community, provides adults with professional and language training, and carries on academic cooperation and exchange programs with more than 100 international universities and institutions of higher education in Northeast Asia, the Americas, Russia, Europe, and Australia. In recent years, through frequent visits, seminars, and conferences with a number of prestigious national universities in Mainland China, Tamkang University has played a significant role in promoting academic relations between the two sides of the Taiwan Strait.

From 1950 to 1964, four scholar-educators served as President of Tamkang College. They are Chang Ching-sheng (1950-1951), Chang En-chu Chu (1951-1953), Chu Hao-jan (1953-1956), and Chen Wei-lun (1957-1964). From 1964 to the present, five scholar-educators served first as President of Tamkang College and later as President of Tamkang University. They are Clement C.P. Chang (1964-1986), Chen Yea-hong (1986-1989), Louis R. Chow (1989-1992), Yun-shan Lin (1992-1998), Horng-jinh Chang (1998-2004) and the incumbent President, Flora Chia-I Chang, who assumed her presidency as of August 1, 2004. Among these scholar-educators, Clement C.P. Chang is worth special mentioning. Due to his foresight and global perspective, Dr. Chang has played a special role in shaping the current trends of education in the Republic of China.

The undergraduate programs developed by Tamkang University provide an education to best train youths to become literary artists and scholars, creative engineers, scientists, economists, and specialists in the fields of humanities, science, industry, technology, business, and other fields of human knowledge. To achieve this goal, classroom learning and independent research are required. In the classroom, students are encouraged to pursue traditional as well as the most advanced knowledge and techniques and to seek new discoveries. In research work, emphasis is placed on both theory and practice.

Since the physical and moral growth of students are of equal importance, students are provided with fundamental courses in physical education, military training, national history and spirit, and recreational and extracurricular activities. The university expects that students will be strong and conscientious in making substantial contributions to their communities and nations after their graduation from Tamkang University.

The graduate programs are philosophically committed to preparing graduate students for life careers as scholars and masters of their disciplines. The faculty encourages both independent study and exchange of ideas and research products between professors and students. The faculty believes that independent research can evolve students' intelligence and result in great strides in human knowledge.

The graduate institutes provide financial assistance and facilities for students and faculty to involve in research programs. They encourage participants to formulate policy for local, industrial or commercial corporations, or for the government. The research institutes also support publication of research findings, and sponsor national and international conferences to promote cultural and academic exchanges. The main objective of the university has been to embrace Globalization, Information-oriented Education, and Future-oriented Education. At the present stage, foreseeing the potential changes and challenges in the future, the university adjusts its pace from the “First Curve” to the “Fourth Wave” while entering the year 2005 and beyond, to ensure Tamkang's vitality, strengthen its competitive capability, meet its challenges, develop its distinctive culture, and, above all, maintain its leading position in this competitive new millennium.
TAMKANG’S TRIPLE OBJECTIVE OF GLOBALIZATION, INFORMATION-ORIENTED EDUCATION, AND FUTURE-ORIENTED EDUCATION

Tamkang University’s Triple Objective: Globalization, Information-oriented Education, and Future-oriented Education, was born out of the foresight of its founder, Dr. Clement C. P. Chang. The ultimate goal of the triple objectives is to train students to have a global perspective, to acquire current information, to create the future, and, to put it in Dr. Clement Chang’s words, “to achieve research excellence, instruction improvement, and enhancement of social welfare.”

Globalization

In the past decades, Tamkang University has been actively internationalizing itself and putting emphasis on information and future-oriented education. Tamkang’s internationalizing efforts can be traced back to 1968, when the university signed its first agreement on academic cooperation and developed a sisterhood relationship with Chuo Gakuin University in Japan. In 1978, the Academic Exchange Committee was formed. Dr. Clement C.P. Chang, the president of the University at that time, served as the Chair. Subsequently, the Academic Exchange Committee began strengthening its globalization by sponsoring international conferences, establishing cooperating relation with overseas universities, initiating faculty/student exchange programs, inviting eminent overseas scholars to deliver lectures as the Tamkang Chair, and subsidizing faculty members for advanced studies and training abroad.

In 1995, the Academic Exchange Committee changed its designation to International Exchange Committee (IEC) to meet the demands of ever-growing international programs and other related activities. Thus far, it has established academic cooperation with over 108 universities in the five continents (see “Appendix A”). In 1993 the Committee initiated the Junior Year Abroad Program (JYAP) with the aim of training students to acquire a global outlook and to better understand and appreciate other cultures. Since then, the number of students sent to Tamkang’s sister universities in Japan, Germany, France, Spain, Russia, Canada, and the United States has increased every year. This year, a total of 452 students from Tamkang University are studying abroad at our sister universities under the JYAP.

In the 2009-2010 academic year, about 255 international students are taking courses at Tamkang University either under the academic exchange programs or at their own expenses. About 600 foreign students are now studying Mandarin in our Chinese Language Program at any given time. The University’s efforts in internationalization have not only helped promote academic and cultural exchanges among universities, but also have strengthened friendly relations among peoples around the world.

Information-Oriented Education

Tamkang has long been a pioneer in information processing. Since the establishment of the Information Processing Center in 1968, Tamkang has applied computer technologies to administration, teaching, research, and services.

Our utmost prospect is to turn Tamkang campus into the most attractive information oriented one. To achieve the goal, we commit ourselves (1) to creating a secure, reliable and fast information network; (2) to integrating information sources on campus; (3) to maintaining an innovative momentum; (4) to providing campus-wide computer applications; (5) to providing Tamkang members with lifetime services.

Tamkang is the first academic institution in the world to receive the ISO 20000 certificate, the international standard for an IT Service Management System. And it is also the first academic/research institution in Taiwan to receive the ISO 27001 certificate, the international standard for an Information
Security Management System (ISMS). The “e-Business Team” of Tamkang, comprised of faculty and students, has made Tamkang the first private university to qualify as an “e-Service Institution” according to the Industrial Development Bureau of the Ministry of Economic Affairs. E-Business Weekly Magazine recently conducted a survey on the digital environment of colleges and universities in Taiwan, and Tamkang University was ranked number one out of a total of 127, and was described as a “digital paradise.”

According to the 2007 evaluation results of Webometrics, TKU is ranked 463rd among 4,000 universities, 31st in Asia, 7th in Taiwan and 1st among private Taiwan universities, a very honorable achievement.

**Future-Oriented Education**

The third of Tamkang University’s innovative major objectives is future-oriented education. Future-oriented education at Tamkang University dates back to 1968 when Dr. Clement C. P. Chang in his article entitled “The Future Trends of World Civilization” emphasized the importance of “Futures Studies,” thus introducing Futures Studies to the Republic of China. Dr. Chang’s pioneering idea was further realized by introducing books on Futures Studies to TKU faculty and students, such as Knowledge Explosion, Catch the Future, The Limit of Growth, and The Birth of the World of Tomorrow. A monthly report on futures studies was inaugurated by Tamkang University on January 10, 1975. Dr. Chang's Education in the Twenty-First Century, published in 1978, laid a solid foundation for Tamkang's educational philosophy, which emphasizes a “global perspective and Future-oriented education.” Most important of all, in 1980, Tamkang was elevated from the status of college to university. At that time, Dr. Chang wrote “Looking Forward Thirty Years in the Future: 1980-2010,” in which he pointed out the academic role Tamkang should play in Taiwan and the world, giving a guideline for the university’s future development. Under this direction, Tamkang’s objective toward Future-oriented education is “to recognize the future, adjust to the future, and create the future,” so as to enable students to recognize the changing world, to confront it, and, moreover, to create their own future world.

To realize this objective, Tamkang has set up the following goals: 1) to strictly carry out the design and instruction of core courses on Futures Studies; 2) to make general courses Future-oriented; and 3) to make Future-oriented innovations in instruction, research, administration and service. Accordingly, Tamkang University has for many years offered a “Futures Studies” course open to all majors. And beginning in 1993, the university has sent faculty and students to attend the annual Conference of World Future Society (WFS) and World Futures Studies Federation (WFSF).

In order to fully carry out this policy, the Division of Futures Studies was inaugurated in 1995 under the Center for Educational Development. The Division offered undergraduate courses in five major areas: futures studies in society, technology, economy, environment and politics. It also designed several graduate courses related to Futures Studies. In 2000, the Division was elevated to the status of the Center for Futures Studies. The Center has published a quarterly Journal of Futures Studies, kept actively ordering and exchanging essays, journals, and books, coordinating scholarly discussion via international conferences, workshops, and websites, and co-sponsoring seminars with WFS, WFSF, and Foundation for the Future (FFF). The Institute has also received a four-year research grant from the Ministry of Education to integrate undergraduate futures related courses into a futures research program. Most importantly, the Graduate Institute of Futures Studies has commenced in Fall, 2002. The goals are: 1) to equip students with the capability of environmental scanning, scenario building and visioning within an integrated context of social change; 2) to cultivate students as future global elites with critical and innovative thinking in the fields of education and social sciences; 3) to enhance students’ ability as policy and planning experts with great interest in local and global issues.

In addition to endeavoring under the Triple Objective of Globalization, Information-oriented Education, and Future-oriented Education, Tamkang University is currently re-engineering its “Fourth Wave” so as to realize its ultimate goal of becoming a first-rate international university.
ADMINISTRATIVE OFFICES AND LIBRARY

The Board of Trustees
The highest authority of the university, the Board of Trustees, consists of community leaders who are interested in the welfare of the university. The trustees elect the president of the university from two to three candidates elected by the representatives of the university faculty and staff, alumni, and social elite. The Trustees, in addition to shaping major policy and controlling budget, are responsible for the conduct of all university functions. The Chair of the Board of Trustees maintains the Office of the Secretariat on the Taipei campus.

Office of the President
The President of the university is the chief executive and chief academic officer of the university. The President has full responsibility under the Board of Trustees for long-range policy as well as day-to-day decision-making. The President office is located in the Administration Building on the Tamsui campus.

Office of the Vice President for Academic Affairs
The Vice President for Academic Affairs is responsible to the President for the conducting of teaching and research in the university. Ten colleges, the Division of Continuing Education, the Physical Education Office, and the Military Training Office of TKU are placed under the Vice President’s supervision.

Office of the Vice President for Administrative Affairs
The Vice President for Administrative Affairs is responsible to the President for the central administrative functions, including academic affairs, student affairs, general affairs, research and development, personnel, comptroller, library, information processing, alumni services and resources development, learning and teaching, and the Tamkang Times Committee. The Administrative Vice President’s Office is in the Business Administration Building on the Tamsui campus.

Office of the Vice President for International Affairs
The Vice President for International Affairs is responsible to the President for the tasks of international exchanges and international education. He is concurrently the Chairperson for the Internationalization and International Exchanges Committee. He is also the Chairperson for the Cross-Straits Task Group. Under his supervision, the Office of International Exchanges and International Education conducts cooperation with foreign institutions of higher learning and offers advice and guidance to foreign students. His office is in the Ching-sheng Memorial Building on the Tamsui campus.

Office of the Lanyang Campus
The Director of Lanyang Campus is responsible to the President for the Lanyang Campus academic and administrative functions, including academic affairs, student affairs, general affairs, the library, and the information processing center. The Administrative Lanyang Campus Office is located in the Administration Building on the Lanyang campus.

Office of the Secretariat
The Secretariat is responsible for the secretarial functions and public relations of the university. The Office of the Secretariat also provides staff services to the President and three Vice Presidents. The Office of the Secretariat is located in the Administration Building on the Tamsui campus.

Carrie Chang Fine Arts Center
The Carrie Chang Fine Arts Center was inaugurated on November 7, 2000. It serves to elevate artistic atmosphere and enhance the ability to appreciate fine arts at the university. The center has an exhibition hall, a gallery-standard storeroom, and multimedia facilities.

The Research Office of Chinese Calligraphy was set up in 2001. So far, it is the only institution in the universities in Taiwan that is devoted to the research and studies of calligraphy. By integrating the expertise of the art of Chinese calligraphy and information technology, the research team has developed a novel way of handwriting “Royal e-Pen.”
The Carrie Chang Music Hall was inaugurated on November 9, 2002 with an aim to strengthen music instruction and to upgrade the standard and atmosphere of music appreciation of the university.

The Tamkang Maritime Museum, the first and free maritime museum in Taiwan, is a unique five-story ship-like building inaugurated on June 6, 1990. Starting from August 2005, the Tamkang Maritime Museum is also under the supervision of Carrie Chang Fine Arts Center.

**Division of Continuing Education**

To promote our nation's development, to meet the needs of our society, and to expand cooperation between universities and industries, Tamkang University combined the Extension Education Center and the Public Service Center into the College of Continuing Education on August 1, 2003. The new college not only provides courses for on-the-job students, but also bachelor and master credit courses. Starting August 2005, the college changed its name to Division. Now the Division of Continuing Education, as a mainstream in education, has been given more emphases by the university. The Division was originally composed of five centers: the In-service Education Center, the Extension Education Center, the Japanese Language Center, the Chinese Language Center, and the English Language Center. In August 2007, the Professional License Training Center was established under the Division of Continuing Education in order to assist citizens in developing professional skills and obtaining professional licenses.

**Office of Physical Education**

The office consists of two sections, Physical Education Instruction Section and Physical Education Activities Section, with the former in charge of the designing and instruction of courses in physical education. All Tamkang University undergraduates take a course in physical education two hours a week. Although it does not carry academic credits, this course is required for graduation. The curriculum for physical education consists of classroom learning and basic athletic exercise. In addition, while the Physical Education Activities Section is responsible for all athletics, students are encouraged to organize teams for intercollegiate competition or for intramural sports such as basketball, baseball, table tennis, tennis, badminton, softball, soccer, volleyball, golf, rugby, martial arts, taekwondo, fencing, bowling, billiard, judo, kendo, track & field and swimming.

**Office of Military Training**

The Office of Military Training, in addition to providing regular military instruction, also renders counseling service and assistance to students in times of need and emergency. The Office is responsible for offering a two-hour noncredit military training course, which is required of all freshmen. Elective military courses are also provided for sophomores and juniors. All curriculum of military training includes lectures and drills in basic military arts and nursing.

**Office of Academic Affairs**

The Office of Academic Affairs provides both students and teachers with academic support services, including course instruction and research. To meet these demands, the Office is divided into several sections covering registration, curriculum, admissions, and printing.

**Office of Student Affairs**

The Office of Student Affairs provides most of the student services of the university. The Office comprises sections in guidance and counseling, extracurricular activities, overseas Chinese student guidance, student counseling, sanitation and health care, and career planning and placement and student housing guidance.

**Office of General Affairs**

This office is responsible for overall campus planning and management of administrative affairs. To develop top sustainable campuses, the Office of General Affairs is committed to creating an environment more than just satisfying teaching, research, learning, and life needs. Core tasks for this office include campus health and safety, energy conservation and carbon reduction, and other related services that need efficient and effective delivery.

Top priorities in the 2010/2011 academic year are to ensure sustainable management of current resources while introducing new and innovative features for the campuses, keep the management risk-free, make better personnel management and service delivery, and beautify the entire campus.
Office of Research and Development
The Office of Research and Development was established to meet the demand of national development, to upgrade the research level of the faculty, and to enhance the function of social service of knowledge. This Office provides complete administrative services for the application, contract-signing, and budget-running of full-time faculty's research projects, together with the promotion of research results, the application of intellectual property rights and the technique transfer of licenses technology and intellectual properties. Starting August 1, 2005, a total of sixteen research centers and offices are under the supervision of this office.

Personnel Office
The Personnel Office is a services-oriented team, providing expert consultation and support to foster a respectful environment that inspires excellence within the Tamkang University. The office establishes and maintains partnership with faculty, staff and management to ensure the university mission is met. The office provides services that support all employees and departments in the areas of benefits, payroll, regular and temporary employment, affirmative action, employee relations and training and professional development.

Office of the Comptroller
Office of the comptroller is responsible for the university budget and financial operations. The office is in charge of the accurate annual budget, accurate accounting information, and efficient internal auditing. This allows the schools not only to improve resource utilization efficiency so as to place more emphasis on administrative performance, but also to obey the related laws. This has helped make possible much steadier development for higher education.

Chueh-sheng Memorial Library
The Chueh-sheng Memorial Library provides information resources and services in support of the teaching, research, learning and service activities of the university. In addition to the main library, the university library has three branches, located respectively on the Taipei Campus, the Lanyang Campus and in the Chemistry Building on the Tamsui Campus.
At present, the university library carries more than 1 million printed volumes; 1.7 million electronic books; 60,000 periodical titles (including electronic journals); 120,000 items of non-book materials, and 549 electronic databases. All materials are managed by the Library Integrated System named Virtua.

Information Processing Center
The Information Processing Center provides computing and networking services to university administration, graduate and undergraduate instructors, and off-campus agencies. It comprises the Director’s Office, sections of Project Development, Education Support, Administration Information, Network Management, Digital Design, and Operation Management.

Center for Learning and Teaching
With the purposes of improving teaching and enhancing learning outcomes, the Center for Learning and Teaching was inaugurated in August of 2006, in accordance to the support of Teaching Excellence Project from the Ministry of Education. By integrating the previous Center for Distance Education, Center for Higher Education Research and Evaluation, and Instructional Technology Section, the CLT currently consists of four sections, namely, the Teacher Professional Development Section, the Student Learning Support Section, the Educational Evaluation Section and the Distance Education Development Section. The CLT aims to provide a high quality learning and teaching environment for all students and faculty at Tamkang by incorporating research planning, curriculum design, counseling, enhancement of digital teaching and learning, and distance education. These services are provided by the following four sections at the CLT:

(1) Teacher Professional Development Section (TDP): The purposes of the TDP are implementing Teaching Excellent Project, and supporting faculty to improve their teaching through the effective use of teaching strategies and instructional technology. The responsibilities focus on offering consultations on curriculum development and teaching strategies, as well as giving workshops and continuing education information, facilitating university faculty on learning strategy application, applying assessment and evaluation to instruction, applying self-evaluation to teaching faculty,
conduction best practice of teaching sessions, giving training courses to teaching assistants, providing services and assistances to fulfill instruction needs around campus.

(2) Student Learning Support Section (SLS) : The SLS Section is aimed to provide appropriate help and support to students for the academic success and the ability to compete. College period is the critical stage for students to develop their abilities of independent thinking and learning. Transferring from a high school system with rigidly disciplined methods of teaching and learning into a totally different college environment, our students are facing a tremendous challenge in many aspects. In order to reach the truly excellence, SLS helps students to build up their own learning styles, to exclude the obstacle of learning, and to find the right learning methods and strategies. Therefore, students will be able to rely on the formula of success to achieve their own goals.

(3) Educational Evaluation Section (EE) : The EE Section is responsible for university-wide evaluations, Total Quality Management (TQM), Teaching Excellence Project, as well as quality awards and related seminars. By working in partnership with other faculties and offices of the university, the division also serves as a coordinator for developing frameworks for Tamkang’s Short-, Medium-, and Long-Term Development Plan. Although it has undergone different names and offices since 1992, the division remains a prominent one on campus.

(4) Distance Education Development Section (DED) : The DED Section is aimed to integrate course domain knowledge, computers, network pedagogy, and learning technologies to develop e-learning courseware and create innovative learning environments. The DED section is also responsible for all the teaching and learning activities occur on the TKU Cyber Campus, which breaks down the spatial-temporal constraints and enhances learning.

Office of Alumni Services and Resources Development
The Office of Alumni Services and Resources Development originated from the Office of University Development and was officially set up in 1995 to meet the rapid changes of society, to promote closer relations with alumni and alumnae, and to raise funds for the advancement of the university’s academic standards. The Office, renamed to the present status in August 2001, comprises the Alumni Liaison Section and the Fund Raising Section.

As of July 2010, the number of Tamkang alumni has reached 220,000. Tamkang graduates have successfully organized up to 152 alumni associations, classified by departments and graduate institutes, regions, businesses, and others.

Office of International Exchange and International Education
The Office of International Exchange and International Education is responsible for academic cooperation and exchange programs of faculty members and students between Tamkang University and Tamkang's sister institutions abroad. The Office is also partially responsible for screening faculty members’ applications for travel funds and other related subsidies to attend international academic conferences.

The Committee of Globalization and International Exchange is chaired by the Vice President for International Affairs. It supervises the Office of International Exchange and International Education, which is in charge of the academic cooperation and exchange programs of faculty members and students between Tamkang University and Tamkang's sister institutions abroad. The Office is also partially responsible for screening faculty members’ applications for travel funds and other related subsidies to attend international academic conferences.

Tamkang Times Committee
The university publishes the Tamkang Times, a four-page weekly newspaper in Chinese, to provide faculty, students, alumni with news concerning the current development of the university and student activities, and to promote the relations among university, faculty, and students. Starting in the academic year 2001-2002, news about important campus events are also available in English on the Internet. The Tamkang Times Committee is chaired by Vice President for Administrative Affairs.

Tamkang University Press
In order to encourage academic research, upgrade teaching quality, and publish academic books and periodicals, the Tamkang University Press (TKUP) was established in August 2002 and supervised by
the Office of Research and Development. The TKUP offers assistance and service in the related affairs of Tamkang’s publications, the registration and application of ISBN and ISSN for faculty publications, and the authorization, printing, and sale of academic books and textbooks.
STUDENT LIFE

All new students are required to attend orientation programs before their coursework begins in order to better understand the history, organization, personnel, facilities, and policies of the university. This orientation covers a series of talks by the administrative officers and principal faculty members over a one-day program.

The university has adopted a tutorial system in which a full-time teacher is invited by the Office of Student Affairs to serve as an advisor to groups of students. He or she helps them in matters of personal, moral, and academic development as well as other aspects of daily life. In order to gain a better understanding of the students, each advisor usually works out a schedule to meet with students and makes a report to the Office of Student Affairs at the end of each semester.

The university has two physical clinics: one is located on Tamsui campus and is staffed by well-trained physicians and nurses. It opens from Monday to Friday, 8:00-17:00 and 18:00-21:00. The other one is located on Taipei campus, and it opens from Monday to Friday, 14:00-21:00. Medical management is free of charge to all students and staff and faculty members. A permanent resident physician is available on Tamsui campus, and both campuses are less than a fifteen-minute drive to well-equipped hospitals.

Accommodation

There are three on-campus female dormitories: Sung Tao Hall 1, Hall 2, and Hall 3, with four-person rooms, and an off-campus male dorm, Tamkang Hall. They can totally house 1,956 women and 990 men. Off-campus housing information is available on our website.

To ensure our students safety, counselors for female dorms work in shifts to live on site after office hours. There is a 24-hour security arranged in the male dorm. Dorms are accessible through monitored student identification card swipe-in entrances that are under surveillance around the clock.

All dorms have study rooms, reading areas, student lounges where newspapers, magazines, books, and televisions are available, and a Laundromat. There is also an air-conditioned gymnasium at Tamkang Hall. All rooms are equipped with access to the Internet, telephone and air-conditioner.

For daily meals, there are a variety of food choices, a café and a convenient store in the basement of Sung Tao Hall. The university also assigns a food committee to evaluate the management of on- and off-campus food providers.

Extracurricular Activities

The university regards extracurricular activities as an integral part of the total educational experience. Students are therefore encouraged to participate in the widely diversified clubs and associations organized on campus.

To guide and financially support extracurricular activities, the university organized a Student Activities Center on the Tamsui campus in 1964. This is the headquarter for all student activities, with office space for each officially registered student association.

There are more than two hundred student associations and clubs at Tamkang University. These student associations and clubs can be classified into nine main categories: academic clubs, literary groups, athletic clubs, recreational clubs, social welfare clubs, alumni associations, departmental associations, religious associations and musical clubs. Popular activities include speech contests, intramural and intercollegiate sports, field trips, lectures, movies, musical performances, drama performances, festival exhibitions, picnics and alumni events.

Overseas Chinese Students Guidance

The Overseas Chinese Students Guidance Section, Ch'iao- Fu Tsu for short, concerns anything related to overseas Chinese students to offer counseling and advisory work to these students. The services offered include: freshman assistance, academic counseling, life counseling and extra-curriculum counseling.
ADMISSIONS AND FINANCIAL AIDS

Requirements for admission to Tamkang University vary with the nature of the program and the applicants. However, the university only admits applicants who give sufficient evidence of their qualifications through previous education, academic aptitudes, interests, and character.

Undergraduate Admissions

Freshmen

Local Chinese applicants with permanent domiciles in Taiwan will be admitted after undergoing open screening procedures including applicants’ qualifications and pertinent examinations, and applicants should meet either one of the following requirements: a) high school graduate or equivalent to high-school graduate, b) 3-year or 5-year junior college graduate.

Foreign nationals of Chinese descendants may apply for admission via the Taiwan overseas representative office in their country of residence.

International Students

International students may apply for admission directly to the Admissions Section of the Office of Academic Affairs of this university. Applicants must hold at least a senior high school diploma and have basic Chinese language skills. Application guidelines and important dates are available on the school website.

Transfer Students

There are limited opportunities to transfer into the undergraduate programs of this university. Both students with a domicile in Taiwan and Overseas Chinese students who have completed at least one year of study at another recognized college or university, or who have graduated from a three- or five-year junior college, are eligible to apply for transfer into programs related to their previous training. Admission is highly selective and based on scores earned in the Entrance Examination for Transfer Students held in each July at this university.

International students may apply directly to the Admissions or Registration Section of the Office of Academic Affairs of this university for transfer to a department related to their previous training. All freshmen of this university after studying for a semester may file an application for transfer to other departments if they find their original major does not suit their purpose. Admission is very competitive; only those who pass the transfer exam with high scores can be admitted.

Graduate Admissions

Tamkang graduate programs, most of which are affiliated with their respective Departments, offer both doctoral degrees and master’s degrees in various fields. Tamkang currently offers seventeen Ph.D. degrees in Chinese, English, Chemistry, Physics, American Studies, Management Sciences and Decision Making, Computer Science and Information Engineering, Water Resources and Environmental Engineering, Mathematics, Civil Engineering, Electrical Engineering, Banking and Finance, Industrial Economics, Mechanical and Electro-Mechanical Engineering, Chemical Engineering, and European Studies. The master’s programs, however, are available in fifty fields, including liberal arts, science, engineering, business, management, foreign Languages and literatures, and international studies.

Local and Overseas Chinese Students

Locals and overseas Chinese who apply for admission to graduate programs leading to both master’s and doctoral degrees should sit for written and oral examinations. Only those who pass the examinations with higher scores are admitted. The written examination usually includes English, Chinese, and other subjects related to each specified program.

Master’s Programs

Applicants must be graduates from an accredited university in a field related to the graduate program concerned or must have completed coursework demonstrating knowledge equivalent to a bachelor’s degree in a related field.
Applicants who are graduates from three-year junior colleges should have self-studied or have been employed in a position related to their respective studies for at least two years.

Applicants who are graduates from two-year or five-year junior colleges must have self-studied or been employed in a position related to their specific studies for at least three years.

**Ph.D. Programs**

Applicants must hold a master’s degree in related fields.

Applicants must submit a master's thesis and other related publications.

M. A. candidates may directly proceed to the doctoral programs should they meet the following conditions: a) They have completed one-year or two-year of coursework with excellent standing and their academic records must be rated in the top 30% of their respective classes. b) They must be approved by the departmental/graduate institute meeting and, finally by the university president.

Bachelor’s degree holders who are graduates from departments requiring six years to graduate can apply if they have received training in their specialized fields for over two years and can submit a thesis equivalent to a master’s thesis.

**International Students**

International students who intend to pursue graduate studies leading to a master’s degree or a doctoral degree must hold a bachelor’s degree or a master’s degree respectively. Applicants must file an application directly to Admissions Section of the Office of Academic Affairs.

**Exchange Students**

Students from Tamkang’s sister universities who wish to study at Tamkang University as exchange students should apply directly to the Office of International Studies of their respective university.

**Scholarships and Financial Aid**

Over 200 various scholarships and financial aid funds contributed by public and private organizations, corporations, academic institutions, and associations as well as individuals are open to competition for students in this university. Differing in nature, some funds are limited to students in certain major fields or from certain geographic districts. Others are set up specifically for foreign students or overseas Chinese. Still another type is available only to children of revolutionary martyrs. In general, scholarships and other financial aids are offered only to needy students with a history of excellent academic performance and good conduct. Application forms may be obtained from the Office of Student Affairs.

Student assistantships are occasionally offered in the form of part-time jobs to help needy students with their tuition and living expenses. The jobs, which vary in their nature and requirements, are given on a competitive basis or through examinations. Applications should be made to the Office of Student Affairs.

The Republic of China has established a loan program to assist students from low-income families. Needy students may obtain the funds from the Bank of Taiwan, after prior approval by the Office of Student Affairs two weeks before registration.
TUITION AND FEES FOR THE 2010-2011 ACADEMIC YEAR

Tuition and academic fees are stipulated every year by the Ministry of Education of the Republic of China. The following fees are subject to change accordingly.

Undergraduate and Graduate Students Tuitions and Fees

<table>
<thead>
<tr>
<th>Colleges</th>
<th>Tuition per semester (NTS per semester)</th>
<th>Miscellaneous Fees (NTS per semester)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberal Arts</td>
<td>39,000</td>
<td>7,880</td>
</tr>
<tr>
<td>Education</td>
<td>39,000</td>
<td>7,880</td>
</tr>
<tr>
<td>Foreign Languages and Literatures</td>
<td>39,000</td>
<td>7,880</td>
</tr>
<tr>
<td>International Studies</td>
<td>39,000</td>
<td>7,880</td>
</tr>
<tr>
<td>Business</td>
<td>39,000</td>
<td>8,590</td>
</tr>
<tr>
<td>Management</td>
<td>39,000</td>
<td>8,590</td>
</tr>
<tr>
<td>Science</td>
<td>40,800</td>
<td>13,460</td>
</tr>
<tr>
<td>Engineering</td>
<td>40,800</td>
<td>13,920</td>
</tr>
<tr>
<td>Global Entrepreneurial Development</td>
<td>40,800</td>
<td>13,920</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Departments</th>
<th>Tuition per semester (NTS per semester)</th>
<th>Miscellaneous Fees (NTS per semester)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass Communication</td>
<td>40,800</td>
<td>13,920</td>
</tr>
<tr>
<td>Information and Communication</td>
<td>40,800</td>
<td>13,920</td>
</tr>
<tr>
<td>Information Management</td>
<td>40,800</td>
<td>13,920</td>
</tr>
<tr>
<td>Tourism and Hospitality</td>
<td>39,000</td>
<td>8,590</td>
</tr>
<tr>
<td>Global Politics and Economics</td>
<td>39,000</td>
<td>7,880</td>
</tr>
<tr>
<td>Multicultural and Multilingual</td>
<td>39,000</td>
<td>7,880</td>
</tr>
<tr>
<td>Studies</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Items</th>
<th>Other Fees (NTS per semester) (Uninformed rate throughout the University)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Education</td>
<td>2,700</td>
</tr>
<tr>
<td>Military Training</td>
<td>2,700</td>
</tr>
<tr>
<td>Computer Laboratory</td>
<td>1,030</td>
</tr>
<tr>
<td>Language Laboratory</td>
<td></td>
</tr>
<tr>
<td>-language majors</td>
<td></td>
</tr>
<tr>
<td>-non-language majors</td>
<td></td>
</tr>
<tr>
<td>Student Life Insurance</td>
<td></td>
</tr>
<tr>
<td>(per semester)</td>
<td>184/184</td>
</tr>
<tr>
<td>E-Learning Computer Laboratory fee</td>
<td></td>
</tr>
<tr>
<td>(per semester)</td>
<td>1,540</td>
</tr>
<tr>
<td>Dormitory</td>
<td></td>
</tr>
<tr>
<td>-dorms for females (2 options)</td>
<td>7,500/8,800</td>
</tr>
<tr>
<td>-dorms for males (2 options)</td>
<td>7,500/19,250</td>
</tr>
</tbody>
</table>
In-Service Students Tuitions and Fees

Master’s Program

<table>
<thead>
<tr>
<th>Colleges</th>
<th>Credit Fees (NT$ per credit per semester)</th>
<th>Miscellaneous Fees (NT$ per semester)</th>
<th>Thesis Advisement Honorarium (NT$ pay once in the first semester of the second year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>8,060</td>
<td>10,810</td>
<td>6,000</td>
</tr>
<tr>
<td>Management</td>
<td>8,060</td>
<td>10,810</td>
<td>6,000</td>
</tr>
<tr>
<td>Engineering</td>
<td>6,364</td>
<td>10,810</td>
<td>6,000</td>
</tr>
<tr>
<td>International Studies</td>
<td>5,755</td>
<td>10,810</td>
<td>6,000</td>
</tr>
<tr>
<td>Liberal Arts</td>
<td>5,755</td>
<td>10,810</td>
<td>6,000</td>
</tr>
<tr>
<td>Education</td>
<td>5,755</td>
<td>10,810</td>
<td>6,000</td>
</tr>
</tbody>
</table>

Two-year Bachelor’s Program

<table>
<thead>
<tr>
<th>Colleges</th>
<th>Credit Fees (NT$ per credit per semester)</th>
<th>Miscellaneous Fees (NT$ per semester)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>1,725</td>
<td>4,950</td>
</tr>
<tr>
<td>Foreign Languages and Literatures</td>
<td>1,725</td>
<td>4,950</td>
</tr>
</tbody>
</table>

Others

Teacher Education Program
1. Regular students:
$1,350 per credit subject to the fees set for students in the College of Liberal Arts.

2. Students extending graduation date:
Those who take more than 9 credits coursework have to pay full tuition as required by their specific departments or graduate institutes (including those in the teacher education program and minors).
UNIVERSITY ACADEMIC REGULATIONS

Grading System

Tamkang University uses a numerical grading system. The scores and their alphabetical equivalents are as follows: 80-100 (A; GPA: 4), 70-79 (B; GPA: 3), 60-69 (C; GPA: 2), 50-59 (D; GPA: 1). The passing grade is 60 for undergraduate students and 70 for graduate students.

Guidelines for Grading

1. Grades submitted to the Office of Academic Affairs are not allowed to make any changes.
2. Students should file a petition to the Office in three weeks upon receipt of their academic reports if any dispute over a grade occurs. If any changes should be made because of the teacher’s mistake or negligence, the teacher concerned should report on the changes and submit the original grades record together with related information to the Registration Section of the Office of Academic Affairs.

Guidelines for Credit Offering

1. One credit is awarded for one hour coursework taken per week in a semester or two or three hours taken per week in a semester in the laboratory.
2. No credit is awarded for the following courses: Physical Education, Military Training, Nursing, Extramural Workshop Practice, and some experimental courses.
3. The university grants transfer credits, depending on the individual department and institute guidelines. Credit transferring will be reviewed upon request and transfer credits will be granted if the courses presented for transfer are similar to particular courses offered at Tamkang in their contents and length of study. Each department or institute can have its own decision as to how much transfer credits will be allowed.
4. Freshmen, sophomores, juniors, and the fourth year Architecture majors are required to take no less than 15 and no more than 25 credits per semester. Seniors and the fifth year Architecture majors are required to take at least 9 credits and no more than 25 credits per semester. For those whose GPA is over 4 (or 80 points and above), additional courses of up to six credits per semester may be granted. Graduate students are left to their own discretion as to how much courses to take per semester, but is limited to 15 per semester.

Graduation Policy

1. The total years of study for undergraduates are four years (five years for Architecture majors). They may extend graduation for no more than two years.
2. The total years of study for master’s students are 1-4 years and 2-7 years for doctoral students.

Total Credits Required for Graduation

Undergraduate Programs

Students are required to complete at least 128 credits (for Architecture majors, 143 credits are required) to be eligible for graduation. Those who meet all of the following conditions may request for a one-semester or one-year earlier graduation:

a) completion of all required credits;

b) a GPA well above 80;

c) a behavior/conduct grade average well above 80;

d) grade average in Physical Education and in Military/Nursing Training are well above 70; and

e) top 5% in department rank

Graduate Programs

1. Master’s candidates must complete at least 24 credits, not including Master’s thesis, to graduate.
2. Ph.D. candidates must complete at least 18 credits, not including doctoral dissertation.
Dismissal

Students are subject to dismissal from the university under the following conditions:

Undergraduates
Undergraduate students who fail one-half of their semester credits for the second time should be expelled from the school.
The following undergraduate students who fail two-thirds of their semester credits for the second time should be expelled from school.
1. Overseas Chinese with a foreign nationality.
2. International students.
3. Overseas Mongolians and Tibetans who come to Taiwan to pursue degrees.
4. Aborigines of Taiwan.
5. Children of diplomats assigned to work abroad.
6. Students admitted for their achievements in sports regulated by MOE.
The aforementioned two sections do not apply to those students who take less than (not including) 10 credits.
Credits awarded for Military Training (or Nursing) and Physical Education should be counted in the number of credits mentioned in the aforementioned three sections.

Graduate Students
MA and Ph.D. students are subject to expulsion from the school if one of the following conditions applies to them:
1. MA students who fail to complete all of the course requirement in 4 years.
2. Ph.D. students who fail to complete all of the course requirement in 7 years.
3. Ph.D. candidates who fail twice in their review for candidacy.
4. MA and Ph.D. students who fail in the comprehensive examinations twice or who are not qualified to repeat the examination.
5. MA students who fail all the courses they take in either the first or the second semester of their first academic year. This rule does not apply to students who only take one course in either of the two semesters.
JUNIOR YEAR ABROAD PROGRAMS
AND INTERNATIONAL EXCHANGE PROGRAMS

Junior Year Abroad Programs

Among the local national and private universities, Tamkang University (TKU) was the first institution of higher education to inaugurate the Junior Year Abroad Program (JYAP) in Taiwan, the Republic of China. In fact, Tamkang has for many years been committed to promoting globalization. In July 1992, when the Ministry of Education (MOE) promulgated the regulations regarding undergraduates studying abroad, Tamkang students had already participated in short-term seminars abroad during summer and winter vacation. Because of Tamkang’s ceaseless efforts, in 1994 the MOE finally approved Tamkang’s petition to permit male undergraduates to spend their junior year studying abroad as well. Under this program, the credits students earn at the host universities can be transferred to their home universities, thereby paving the way for local undergraduates to study for one-year at overseas universities during their four years of college education, marking a new milestone in the history of the ROC’s higher education.

Since 1994, Tamkang University has been recruiting its college juniors to study at overseas sister universities every year. So far, 4071 students from the College of Foreign Languages and Literatures alone have been at our sister universities under JYAP. In the 2010-2011 academic year, 452 undergraduate and graduate students were recruited to spend one year studying in Japan (Reitaku University, Josai University, Josai International University, Kyoto Tachibana University, Heisei International University, Nagasaki University of Foreign Studies), Korea (Kyung Hee University), USA (Indiana University of Pennsylvania, Winona State University, University of St. Thomas, California State University, Sacramento, California State University, Long Beach, The University of Michigan Flint, Washington State University, Hawaii Pacific University, The University of Maryland, San Francisco States University), Canada (Brandon University), UK (Oxford Brookes University, University of Sunderland), Spain (Universidad de Navarra), France (Universite de Franche-Comte), Finland (Laurea University of Applied Sciences), Germany (University of Bonn), and Russia (St. Petersburg State University), New Zealand (Waikato University), Australia (The University of New South Wales, The University of Queensland).

International Exchange Programs

Under the International Exchange Program, Tamkang has contracted academic collaboration with 108 universities around the world. Beside the JYAP, the university has also been sending its undergraduates, master’s and doctoral candidates to either study, conduct research, or collect materials at overseas sister universities, such as California State University-Sacramento & Long Beach, Suffolk University, Winona State University. Hawaii Pacific University, The University of West Florida, American University (U.S.A.), University of Cologne, University of Bonn (Germany), University of Jean Moulin, Lyon 3, the University of Sorbonne (France), Laurea University of Applied Sciences (Finland), Stockholm University (Sweden), the University of Vienna (Austria), the University of New South Wales (Australia), Charles University in Prague (Czech), Kyungnam University, Kyonggi University, Kyung Hee University (Korea), Waseda University, Aoyama Gakuin University (Japan). On the other hand, 235 international students are now studying at Tamkang University either under the academic exchange programs or at their own expense.

The university is currently working on improving the language proficiency of its students so that more students can study abroad under the JYAP and exchange programs. In addition, the university has designed several courses on Chinese culture, history, language, and aesthetics especially for international students; and it also has increased the number of English-instructed courses every year to meet the demand of local TKU students as well as international students. Tamkang University is known as an international university and is recognized as a campus without national boundary or racial discrimination; Tamkang’s campuses can be seen as a miniature “global villages.”
Information for International Faculty and Students

Tamkang University (TKU) has a long history of international education programs. In addition to intensive cooperation with 108 sister universities, 47 visiting and permanent faculty members from all over the world have come to Tamkang during the 2010-2011 academic year. This section provides some useful information for new international faculty and students at TKU.

Children and Dependents

International faculty and students with school-aged children accompanying them should pay careful attention to this section. Education in the Republic of China (ROC) is compulsory for all children who have not completed nine years of formal schooling. This law applies to all foreign and native residents of the ROC. Children may attend either public schools or private schools accredited by the Ministry of Education. The language of instruction in the public schools is Mandarin Chinese. Classroom instruction may be conducted in English in some private schools.

Your choice of a school for your children may be based on your children’s linguistic skills and your financial resources. Children in the early primary years (equivalent to US grades K-3) may adjust easily to public school instruction in Chinese; indeed, children of that age may greatly benefit from forced immersion in another culture. However, older children who are not fluent in Mandarin probably would not succeed in the public school system. Any faculty or students coming to TKU from other countries with older children (US grades 4-12) should contact the Office of International Exchange and International Education for a list of English instruction private schools. Some elementary or secondary schools that offer classroom instruction in a language other than Mandarin Chinese can be found in Taiwan. They are: the Grace Christian Academy at 67 Dong Sing St., Nankang, Taipei, offering full curriculum and faculty from the USA covering such programs from 3-year kindergarten to Grades 1-9; the Taipei European School (TES) has two campuses at 727 Wen Lin Rd, Shihlin, and 31 Chien-yeh Rd., Shihlin, Taipei, providing British, French and German style education for international students aged 3-18; the Dominican International School at 76 Tachih St., Taipei; the Taipei American School (TAS) at 800, Chungshan N. Rd., Sec. 6., Taipei. Besides, there is the Taipei Japanese School located just opposite to TAS at 785 Chungshan N. Rd., Sec. 6., Taipei.

TES and TAS offer European/English-language instruction for students at an age equivalent to that of US grades 9-12. The tuition rates for TAS are high (currently in excess of US$ 14,000 per year) and scholarships are rarely offered; whereas TES around € 10,000 per year. Unless you have financial resources greater than the typical Tamkang University faculty member, you may wish to consider sending a senior high school student to a school in your home country.

College-aged students accompanying you have several options. Many universities in Taiwan have exchange student programs. These one-year exchange student programs are organized for students who are already matriculated in a foreign university. Courses offered are of Chinese language, customs, and culture; some coursework may be offered in English.

Other students might wish to work on a degree in a local university. All degree programs require fluency in Mandarin Chinese. If a student wishes to matriculate in a university in Taiwan, he/she should contact the ROC embassy, consulate, or representative in his/her home country, and also contact the school(s) that interests him/her.

Children of Tamkang University faculty members who are attending Tamkang University can apply for TKU scholarships.

Taxes

Aliens residing and working in the Republic of China are obligated to pay income taxes to the ROC government. This rule applies to almost all international faculty at Tamkang University. Among the very few exceptions are guest/exchange/Fulbright professors whose sole source of income is their salary from their home institutions or government, and other faculty who hold diplomatic passports from governments accredited to the ROC.

More detailed information about the income tax law of the ROC are stipulated in the brochure: Aliens and Individual Incomes Tax, published by the National Tax Administration in Taipei. The brochure is available upon request at the following address:

Foreign Affairs Office
National Tax Administration
Ministry of Finance
2, Sec. 1, Chung-Hwa Road, Taipei, Taiwan, R.O.C.
For taxation purposes, foreign nationals are categorized into residents and nonresidents based on their length of stay in Taiwan. You are considered a nonresident for the first 183 consecutive days you live in Taiwan. Thereafter, you are considered a resident unless you leave the country for more than one year. Nonresidents are obliged by law to pay tax at a rate of 20 percent of total income.

Residents pay taxes on a progressive tax rates from 6 percent to 40 percent. A typical Tamkang University faculty pays tax at a rate of 13 or 21 percent for their total income. Please note that taxable income also includes all remuneration for services performed within the ROC, as well as income from sources outside the ROC (such as royalties, commissions, and wage supplements) unless explicitly exempted by the ROC tax code. However, residents have a number of exemptions and deductions that may reduce their tax liability. There is no sales tax in the Republic of China, and there are only a few luxury taxes.

The university will withhold a portion of your compensation each month for tax purposes (20 percent for nonresidents and on a progressive scale for residents). We suggest that you keep each monthly statement, as well as all financial records of taxable items. According to the law, you will not be permitted to leave the ROC unless your tax obligations are fulfilled.

Unless you are a citizen of the ROC, you are required to assign a “guarantor” while you are working here. Usually a staff member of the department where you are assigned will serve as your guarantor. Please remember that this individual is responsible for supervising your tax or financial obligations and you guarantor is doing this as a personal service to you. If you do not fulfill a financial obligation, your guarantor, not the university, will have to take the responsibility.

Taxes are collected between May 1 and May 31 each year for taxes incurred in the previous year. Also, you can pay taxes any time if you plan to leave the ROC either temporarily or permanently. The university will provide you with a cumulative withholding statement in early January, or at any time before you leave Taiwan. A department assistant will be available to assist you in finding the appropriate office to pay your taxes.

When you visit the tax office to pay your taxes, be sure to request an official tax statement in English. Many countries have tax and trade agreements with the ROC and taxes paid to the ROC government may affect your tax liabilities in your home country.

Transportation

Northern Taiwan has a complete public transportation system, and new international faculty are encouraged to use the public transportation system instead of driving a car or riding on a motorcycle. There are buses running between Taipei and Tamsui. In addition, Tamkang University provides faculty and their dependents with bus service running between Taipei and Tamsui campus with stops along the way. Moreover, there are shuttle buses running between TKU Tamsui Campus and the Tamsui MRT Station from 8:15 to 22:10 on workdays two trips per hour (The university has a different bus schedule during the summer and winter recess and in the examination weeks). The Mass Rapid Transits (MRT) running between Taipei and Tamsui travels intensively, and it is convenient, clean and comfortable. It takes about 40-45 minutes to go from Tamsui to Taipei.

If a faculty member wishes to drive his/her own car or motorcycle, there are parking spaces on Tamsui campus, but none on Taipei campus. Parking is a difficult task to every motorist since there is a shortage of parking space in the Taipei area. In any case, the university strongly discourages newly arrived international faculty from driving in Taiwan.

Driving conditions in Taiwan are unique. There is a highway system, but it may not meet the need of a fast growing population and the economic expansion. Furthermore, there is a shortage of public parking space in Taiwan, especially in Taipei, with an average of 1 parking space accommodating over 5 cars. Moreover, it may take a lot of practice and cultural conditioning to maneuver an automobile on peak motorcycle traffic. We suggest that you wait for months before you try to drive in Taiwan.

Since foreign licenses are not acceptable in Taiwan, you must obtain an ROC driver’s license. A written examination (in Chinese) and a driving test are required. Insurance coverage in Taiwan might not be satisfactory. In case of an accident, you might be required to compensate for the injury or loss of the other party, even if you were not responsible for the accident. We regret that the university cannot provide legal assistance to faculty members for activities not directly related to instruction.

For years, the increasing demands for north-south intercity transportation in Taiwan had attracted much attention from the government to work out the best solution. After a long-term effort, Taiwan High Speed Rail Corporation (THSRC) was incorporated in May 1998 as the concessionaire to build and operate the High Speed Rail Service (HSR) and was completed in 2007. The HSR links Taipei to
Kaohsiung at a total length of 345km with approximately 90 minutes of traveling time. During the first stage of the operation, eight stations of the high speed rail have been operated, namely, Taipei, Banciao, Taoyuan, Hsinchu, Taichung, Chiayi, Tainan, and Kaohsiung (Zuoying). In the coming future, more stations will be developed. The HSR is a fast and convenient way of the trans-island travel linking north to south of Taiwan.

In sum, we suggest that newly arrived international faculty members use the public transportation, the university bus service, taxi, the MRT (best choice) and the HSR (for trans-island travel) when traveling here.

Housing Accommodations

Housing accommodations for faculty members on the Tamsui campus are very limited and are available only for faculty members with family and for the single female faculty members. Regular faculty members with dependents may be housed in one of the scholar residence apartment buildings or townhouses. These units vary in size from one to five bedrooms, and may be either furnished or unfurnished. Please note that these units are in great demand, and an early request will improve your chances of obtaining one. Furnished single rooms on the Sungtao Dorm are offered for single female faculty only. As to single male faculty members, we apologize that they will have to rent apartments or single rooms nearby the campus.

The single rooms in the Hwei-wen Hall are reserved exclusively for exchange professors and visiting professors with no dependents. These units provide private rooms with private baths, but no cooking facilities. There are a number of restaurants on or near the campus.

Please advise the appropriate administrative office of your housing needs as soon as possible after you receive your teaching or research appointment. The Office of the Dean of General Affairs makes housing arrangements based on a priority rule, which is heavily weighted in favor of a first-come-first-served basis. Thus, an early request is essential. Guest/exchange professors have the highest priority, and suitable accommodations can usually be provided on short notice for them.

If we are not able to provide accommodations on Tamsui campus for you, you may request to be put on a waiting list for the first suitable vacancy. In the meantime, the department assistant will help you in locating living quarters. Monthly rent for private housings in the Taipei-Tamsui corridor range from a moderate US$ 500 (2009 rate) for a nearby Tamkang campus apartment with 2 bedrooms, one sitting room, one bath, and one kitchen, to a very expensive US$ 5,000 for a 5-bedroom luxurious house complete with modern facilities, 2-or-3-car garage, front and back yards with a swimming pool, situated on the scenic Yang-ming-shan area.

Parking facilities are available on the Tamsui campus for faculty automobiles and motorcycles. Please refer to the section on “Transportation” for additional information.

The university does not allow animals, pets, or dangerous combustible articles in university housing units in order to maintain campus safety, sanitation, and peaceful surroundings. Cooking is not allowed in the single dormitory or in Hwei-wen Hall.

Arrival Information

The university contract with you generally covers a period ranging from August 1 to July 31 of the following year. If you wish to be paid for the month of August, you must report in person to the relevant administrative office prior to August 15. Otherwise, you will start receiving your pay in September.

Please notify the administrative office of the date, time, and flight number of your arrival at Taoyuan International Airport. If possible, a department assistant will be there to assist you with some entry formalities. If you happen to arrive at another city or airport in Taiwan, you will need to make your own arrangement for transportation to the university.

After getting off the plane, you will have to go through customs procedures. We assume that you have obtained from the ROC representative abroad a copy of customs regulations. When you pass through the customs, you will also be asked to complete a currency declaration. You should declare the exact amount of foreign cash currency, gold, and silver in your possession. Also, remember to keep receipts of any transactions involving traveler’s checks.

After you finish all the procedures in the customs area, you will see a department assistant from Tamkang waiting for you in the waiting lounge. The assistant will help you with any additional entry formalities (such as currency exchange, etc.) and will take you to your residence. If for some reasons the assistant is not there, ask an airline service person to write your address in Chinese characters for a
taxi driver. A typical cost for a taxi running from the Taoyuan airport to Taipei or Tamsui is approximately NT$ 1,000-1,500 (US$ 30-45).

Visas
All foreign nationals entering the Republic of China must have an appropriate visa. Complete regulations on visas may be obtained from any ROC embassy, consulate, or official representative.

When you contact the ROC representative office, be sure to have all the documents concerning your employment at Tamkang. This should include an official university employment contract (or letter of intent) and the passports of yours and accompanying family members.

Full-time regular faculty, and guest/exchange professors who will be at Tamkang for longer than two months should request an “Entry Visa” status. This status entitles the holders to be temporary residents of the ROC and they are eligible to continue working for pay here as long as they maintain full-time employment status with the university. To obtain the entry Visa from an ROC representative abroad, you must have the official employment contract; a letter of intent or telegram is not sufficient. If you have only the letter of intent or telegram, you should request a “Tourist B” visa, and we will attempt to help you apply for Entry Visa status upon your arrival in the ROC.

Guest/exchange professors who will be with us for less than two months should ask for “Tourist B” visas. These visas are valid for two months after the date of arrival in the ROC, and may be renewed twice for a maximum stay of six months. The “Tourist B” Visa has some advantages for short-term faculty members, as it reduces the amounts of paperwork required when you plan to leave Taiwan.

The university does not offer part-time employment to foreign nationals unless these individuals are already living in Taiwan. We assume that part-time faculty members will have all the necessary visas and papers before their appointment.

Immediately upon your arrival in Taiwan, you should contact the administrative office in charge of your employment. For regular faculty, this office would be the undergraduate department or graduate institute. For guest/exchange professors, they should report to the Office of the International Exchange and International Education. A department assistant will help you with entry formalities and police registration. For additional information about arrival procedures, please refer to the section “Arrival Information.”

Conditions of Appointment
New faculty members must submit their official credentials to the department chairperson or institute director within fourteen days after acceptance of their teaching position. All full-time and part-time faculty of the university are assigned to one of the undergraduate departments or the graduate institutes. However, a member of one department may teach in any other department with the approval of the department heads and the deans of the colleges concerned.

Faculty members are assigned to an academic rank according to their educational background and work experience. There are four formal faculty ranks and two special ranks.

The four formal ranks assigned to Tamkang University faculty are Lecturer, Assistant Professor, Associate Professor, and Professor. Lecturer is the beginning rank for new faculty members with at least a M.A. degree. New faculty members who hold a Ph.D. degree from an accredited university may be assigned to the initial rank of Assistant Professor. The rank of Professor is granted to new faculty members who already hold that rank in an accredited university. The formal ranks of the faculty are not assigned by Tamkang University, but by the ROC Ministry of Education. Once a faculty member is awarded his/her Lecturer’s, Assistant Professor’s, Associate Professor’s, or Professor’s certificate by the Ministry of Education, he/she may teach at that rank in any ROC university.

There are two special ranks awarded by Tamkang University, not by the Ministry of Education. A beginning faculty member with only a BA degree but with specialties in a particular field may be appointed Technical Instructor; this rank is occasionally used for language instructors or engineering personnel. The highest academic rank of the university is Chair Professor. The title of Chair Professor is awarded to a faculty member who is already qualified for the rank of full professor, and is considered a world-class scholar of high achievements. The rank of Chair Professor is currently held by only three members of the university faculty.

Faculty may only be promoted within the official ranks. Technical Instructors are not eligible for promotion, and there is no rank higher than Chair Professor. Lecturers are eligible for promotion to Assistant Professor after three-to-six years of full-time teaching service, submission of a research paper equal in quality to a Ph.D. dissertation and a sufficient amount of articles published in professional journals. An Associate Professor is eligible for promotion to Professor after three years of service as an
Associate Professor, submission of a scholarly renown research paper and a sufficient amount of scholarly papers published in well-recognized academic journals. Tamkang University is one of the few universities in Taiwan authorized by the ROC Ministry of Education to administer its own faculty members’ promotion requests.

New faculty members are subject to a one-year probationary period. After passing the evaluation by the department committee, they may be awarded another year of contract; thereafter, faculty members are awarded contracts on a two-year basis. There is no “tenure” or permanent contractual teaching in the universities in the ROC. Full-time faculty members are not allowed to hold full-time positions outside Tamkang University, and may not teach more than four hours per week at another university or college; any part-time off-campus employment must be approved by the department chairperson or institute director as well as the dean of the college employing the faculty member. In addition to their classroom instruction, full-time faculty must offer four-day office hours per week to fulfill their administrative, counseling, and coaching duties as assigned by their academic supervisors.

Lecturers are required to teach a minimum of ten hours per week. Associate Professors are required to teach a minimum of nine hours per week. Professors are required to teach a minimum of eight hours per week. In addition to the minimum teaching hours, full-time faculty may be allowed to teach up to six extra hours per week; the extra hours taught will be paid based on the hourly pay of the teacher’s academic rank. No more than four extra hours will be paid to a faculty member who is conducting research under a research grant.

Chair Professors are required to teach six hours per week and may not teach extra hours or hold any full time or part time off-campus position.

Part-time faculty members are paid based on the total class hours they teach per week. Part-time faculty may teach up to six hours per week at Tamkang University.

Full-time faculty members may request an unpaid leave and get approved by the department chairperson or institute director, and the dean of the employing college and the president of the university. Requests for a one-week or less-than-one-week leave should be approved by the department chairperson or institute director. Requests for a leave for more than one week require permissions from the immediate supervisor as well as the college dean and the university president.

For leaves of less than two weeks, the faculty member should make arrangements with students for make-up classes, and should inform the department or institute office and the Office of the Dean of Academic Affairs of these arrangements.

For leaves of more than two weeks and less than one month, the faculty member must find a substitute teacher, who must be approved by the department chairperson or institute director, the dean of the college, and the Office of the Dean of Academic Affairs. The faculty member on leave will have to personally pay the substitute teacher for his/her services.

For leaves of more than one month, the department chairperson will have to recruit a substitute teacher. The substitute teacher will be paid directly by the university, after being subtracted from the salary of the faculty member on leave.

Extended leaves (for one semester or one academic year) for academic or health reasons may be approved by the university president. Except for serious health emergencies, faculty members who wish to be considered for extended leaves must submit their requests in writing to the university president no less than one month before the beginning of the semester when the leave begins; extended leaves may not begin in the middle of a semester. Please note that the university president will not always welcome requests of an extended leave.

Senior faculty members may be eligible for sabbatical leaves. See the section on “Sabbaticals.”

An unofficial English translation of the employment contract is available upon request. However, any disagreement between the English and Chinese versions of the employment contract will be resolved in favor of the Chinese version.

Research Grants and Subsidies

In case a publication fee is mandatory for publication of research papers, the university will pay 80% of the fee, up to the amount of NT$ 10,000, excluding all other funding from other institutions and the university will pay 50% of the fee, up to the amount of NT$ 10,000, excluding other funding by the author if the publication fee for research papers is voluntarily charged.

Full-time faculty members are eligible for a generous reduction in the costs of programming and timesharing on the university computer facilities. Please contact the university’s Information Processing Center for further information.
The university strongly encourages eligible faculty members to develop computer-assisted instruction (CAI) materials. Significant cash grants are available to faculty members for developing these materials. Further information may be obtained from the Computer Education Center.

The UDAS information services offered by the university library are available for research. The library will assume some of the fee burdens for qualified research.

Tamkang University is fully supportive for faculty research. Reasonable requests for assistance that are consistent with the university’s aims and resources will be given careful consideration.

Sabbaticals

Sabbatical leave with full pay may be granted to senior faculty members upon the approval of the university president. Such approvals are usually given according to the following conditions:

Full-time faculty members under 62 years of age, who have served as full professors for seven years and who have received five research grants, may be eligible for one-year sabbatical leave.

Hired before 1998 and under the age of 62, faculty members who have received TKU or NSC research grants or have served as chair professors for accumulatively seven years are eligible for application of sabbatical leave under the following conditions:

1. For professors who do not receive the research grants, every two service years shall be converted into a one-year leave.
2. For associate professors who receive the research grants, every two service years shall be converted into a one-year leave.
3. For associate professors who do not opt to receive the research grants, every three service years shall be converted into a one-year leave.

Sabbaticals are granted by the university president, and a faculty member may either take or decline the offer. A faculty member may not retire or resign within two years after the completion of a sabbatical leave.

Preparations

New international faculty members should return their signed contracts to the university within two weeks of the receipt of the contract. Failure to do so may result in cancellation of the offer.

The following sections in the chapter will discuss things that might concern international faculty at Tamkang University. Although much of the following information might not be relevant to international students attending Tamkang, they should also read through this chapter carefully. This section, under "Preparations," will provide some information that all international members of the university should consider before leaving their home countries.

After a new faculty member has returned his/her contract and completed legal requirements (see “Visas”), he or she should be physically or culturally adjusted to the new environment. By “physically,” we do not mean doing pushups and sit-ups (although the university does encourage a mens sana in corpore sano philosophy). Rather, new faculty from temperate climates should prepare themselves for a subtropical climate.

Taiwan does not have four clearly demarcated seasons. Rather, there are actually only two seasons: a warm summer extending from June through September, and a cool winter from November through March. The other three months form two transitional periods when the weather may abruptly change between the two seasonal patterns. The winter tends to be cool (average temperatures ranging from 40°F to 60°F); it never snowed in Northern Taiwan (except in mountain areas) in recorded history. Summers are warm-to-hot, with temperatures ranging from 75°F to 95°F Throughout the year there is a constantly high level of relative humidity ranging from 60 to 90 percent.

In general, the climate in Taiwan is good for our health and faculty members will have sufficient opportunities for outdoor activities throughout the year. The humidity may affect a person on the first few days after his or her arrival, but most people get used to it soon. However, if you are suffering from arthritic or breathing problems, you should consult a physician before coming to Taiwan.

The subtropical climate simplifies your choices of clothing. Heavy winter jackets and boots are unnecessary unless you are interested in mountaineering. There is no strict university dress code for faculty. In winter, male faculty members usually wear suits and ties; in summer, a more relaxed atmosphere prevails, with leisure suits, open-collar sport-shirts, and dress slacks are common on the campus. Female faculty may follow the conservative Chinese culture and dress appropriately.

Fortunately, Taiwan is a major garment center, and international faculty will find very good bargains in custom-tailored and made-to-measure clothing here.
Faculty members with school-aged children attending public schools will be required to purchase uniforms. Other social and informal clothing for adults and children are similar to the usual attire in Western countries. However, very formal clothing (such as tuxedos and evening gowns) is rarely worn in Taiwan.

Although Taiwan is not plagued with a Monsoon season, like some other Southeast Asian nations, there are periods of heavy rain in the mid-winter and mid-summer season. In July and August, Taiwan may be hit by one or more typhoons (Pacific hurricanes). It is more of a nuisance than a danger. Pacific storms are usually less severe than Atlantic hurricanes, and the university campus is situated several hundred feet above sea level. You should only be concerned if you are in a low-lying area of Taiwan. The government will warn and evacuate citizens when necessary.

Taiwan has an excellent health care establishment, and faculty members of the university are covered by government health insurance during their stay in Taiwan. There is a university physician in residence on Tamsui campus. Modern hospital facilities are within a fifteen-minute drive from either Taipei or Tamsui campus. If an international faculty member has any special health problems, he/she should consult the department chairperson or institute director at Tamkang before he/she leaves his/her home country for Tamkang University, so that the university can suggest required medications or treatments available in Taiwan.

You are required to submit health certificates (including HIV, lung X-ray and other physical examinations) before being admitted to the ROC. School-aged children attending public institutions in Taiwan must have a checkup and lung X-ray administered by an authorized health agency in Taiwan.

Aside from health-related issues mentioned above, a new international faculty member should prepare him/herself to work in an Asian cultural setting. This preparation should include consideration of the linguistic, social, economic, and political reality of Taiwan.

The official language of the Republic of China, and by extension Tamkang University, is Mandarin Chinese. Many native residents of Taiwan speak a dialect of Chinese called Taiwanese, which differs significantly from Mandarin. Older residents on the island may speak some Japanese, and the younger generation can sometimes communicate in basic English. This means that an international faculty member who cannot communicate in Chinese is somewhat limited in his/her class offerings and an international faculty member who cannot speak Chinese, Japanese, or English might in a nearly desperate situation. The common language of instruction at Tamkang is Mandarin Chinese, and most university documents are written in Chinese characters. The Foreign Language departments are exceptions, where the common language of instruction for those departments is the subject-matter language. Other departments might allow foreign languages for instruction with the permission of the department chairperson or institute director. For practical purposes, however, Chinese and English might be the only two languages acceptable to the students. The Chinese Language Center of the Division of Continuing Education on the Taipei campus is one of the few excellent places in town for non-Chinese speaking people to learn Mandarin Chinese.

For most adult Westerners, the Chinese language is a formidable challenge and it is unlikely that a non-Chinese speaking faculty member can master the language before coming to Taiwan. However, the university encourages international faculty to study Chinese in their spare time after their arrival. There are many schools and tutors here which specialize in teaching Mandarin to speakers of other languages.

In the social and cultural aspect, there are a number of subtle differences between Chinese people and Westerners. You might want to prepare yourself for your future stay in Taiwan by reading the various travel guides and essays published by the ROC embassy, consulate, or representatives in your home country. We strongly recommend the current issue of the China Yearbook published by the China Publishing Company of Taiwan, ROC and believe it should help you get an overview of Taiwan and better understand Taiwan.

Economically, the Republic of China is preparing to join the ranks of the advanced developed nations. The story of Taiwan’s modernization is considered miraculous by many leading economists. A foreigner walking on the streets of Taipei may think that he/she has not left New York or London. Almost every conceivable Western commodity or service is available here. However, in the forty-year modernization, there are a few areas (such as public utilities and transportation) where further development is needed. Foreigners are expected to be tolerant of the rare inconvenience.

Finally, there are some political considerations. International faculty members should be aware of and considerate toward the unique situation in the Republic of China. Although the Chinese Constitution and the regulations of Tamkang University, upholds academic freedom and the rights of free speech, political propaganda and political activities are strictly prohibited on campus.
Grading Practices

International students and faculty in Taiwan may be a bit confused with the grading practices here. Tamkang uses a numerical percentage system based on 100 points, where 80+ equals an “A” grade, 70+ equals a “B” grade, 60+ a “C” grade, 50+ a “D”, conditional failure-and under 50, a failure. Grading practices here tend to be more conservative than those in Western countries. Please discuss the grading system with a senior member in your department before you submit your final grades.

Programs of Study

Tamkang is a comprehensive research and teaching university. Currently there are eleven colleges at Tamkang University offering graduate and undergraduate programs. They are the College of Liberal Arts, the College of Science, the College of Engineering, the College of Business, the College of Management, the College of Foreign Languages and Literatures, the College of International Studies, the College of Education, the College of Global Entrepreneurial Development, and the College of Community Development.

The “Programs of Study” are divided into 12 sections. The first section, “Core Curriculum,” lists the undergraduate courses administered by the individual departments, but under certain circumstance students from a different department may take these courses. Other outline courses are offered in each undergraduate major department. Each section includes a list of faculty members who teach in the department or institute, course descriptions, and a cross-reference listing of courses not included in the major listing. The undergraduate programs also provide the major course requirements for the degrees.
TAMKANG RESEARCH CENTERS

NANO TECHNOLOGY RESEARCH CENTER

Director: Kang, Shung-wen (康尚文)

The center is a team research-oriented organization under the supervision of the Vice President for Academic Affairs. Nano science and technology is a multidisciplinary research area. It comprises professors conducting nano materials related to physics, chemistry, life science, material, electronics, mechanics, etc. The center is responsible for the integration of research resources and the coordination among research teams inside and outside the University. The center hosts seminars and forums regularly to promote multidisciplinary and collaborative research projects. In addition to training interdisciplinary scientists and engineers for future demands, this center is also aimed at developing the core nano-based science and technology with a view to making new discoveries for research advancement.

CHAMPION INCUBATION CENTER

Director: Shaw, Reuy-shiang (萧瑞祥)

Champion Incubation Center facilitates start-up and small companies by providing business and technical assistances through university experts and professional industrial consultants. The Center also leases office space upon request. The Center encourages university professors to collaborate with established companies toward joint research projects supported by government agencies and large industrial sponsors. Furthermore, research findings can be further modified toward practical solutions and delivered as commercial products. The scope of issues involved is suggested by, but not limited to, the following:

1. Multimedia/Information Technologies and their Software Applications
2. The Development of Electronic Machinery Products
3. The Development of Chemical Products and New Materials
4. Biotechnology and Environmental Technology
5. Marketing Strategy Analysis and Management Consultation

CENTER OF RESOURCES FOR THE BLIND

Director: Keh, Huan-chao (葛煥昭)

Tamkang University began to enroll visually impaired students in 1969. For more than three decades, TKU has dedicated itself to the development of a friendly learning environment for the visually impaired. The staff members at the Center of Resources for the Blind have successfully developed adaptive computer systems, established the “Barrier-Free World Wide Web system,” the Chinese-based e-library for the visually impaired, and produced textbooks, journals and magazines in Braille versions.

Missions of this center include:
1. Providing life, academic, psychological and vocational assistance to students with disabilities in the university;
2. Developing and promoting the barrier-free information system for people with visual impairments;
3. Establishing the assistive device center for college students with visual impairments;
4. Providing other related services.

CENTER FOR TIBETAN STUDIES

Director: Wu, Kuan (吳 寬)

Established in August 2005, by request of the former TKU president Chang, Hong Chu, this Center is affiliated to the Office of Research and Development. It aims to conduct both academic research and applied research. Religious, historic and linguistic studies are the three main fields of research. The Center regularly host colloquia and invites scholars or professional experts either from other
universities or from abroad to deliver lectures. Every other year the Center organizes a conference and invites scholars from both sides of the Strait of Taiwan to do academic exchanges. Currently, in addition to the Director, Ana Wu, who specializes in Contemporary Tibetan Religious issues, there are four researchers from different fields.

LIFE SCIENCE DEVELOPMENT CENTER

Director: Wang, San-lang (王三郎)

The Center, established on August 1, 2002, is an R & D unit affiliated to the Office of Research and Development. Life Science is multidisciplinary. The Center is a research-oriented organization. It involves professors conducting biotechnology related research, including applied microbiology, molecular biology, neurosciences, etc. The Center is responsible for the integration of research facilities and coordination among research teams within and outside this university. It hosts regular seminars and forums to promote multidisciplinary and collaborative research projects. One of the goals of the research team is to train interdisciplinary research scientists and engineers to meet future demand.

WIND ENGINEERING RESEARCH CENTER

Director: Cheng, Chii-ming (鄭啟明)

Established in 1998, on the solid foundation of the previous Boundary Layer Wind Tunnel Laboratory, Wind Engineering Research Center at Tamkang University (WREC-TKU) is the leading wind engineering research institute in Taiwan. The goal of WERC-TKU is to pursue academic excellence and provide solutions to engineering practices as well.

The research team involves a wide range of specialties in the field of wind engineering, such as tall building aerodynamics, cable supported bridges, large span roof structures, mitigation of wind-induced vibration, indoor and urban ventilation, wind tunnel testing, Computational Fluid Dynamics (CFD) simulation, full scale monitoring, Information Technology (IT) applications and wind code developing. Over the past decade, we have strengthened the Center academically by conducting academic activities including numerous integrated research projects for government agencies such as National Science Council (NSC), Architecture and Building Research Institute (ABRI), and several international conferences, workshops and seminars.

On the engineering practice side, besides a great number of wind tunnel tests for pedestrian comfort evaluation and design wind load, we have developed a user-friendly expert system for current Taiwan building wind code. This free-of-charge wind code expert system has been open to public use and received excellent remarks by many design practitioners. The long-term milestone of the Center is to become a world-renowned wind engineering research institute and a first-class wind engineering solution provider for the local wind engineering community.

CENTER FOR WATER RESOURCES MANAGEMENT AND POLICY RESEARCH

Director: Yu, Gwo-hsing (虞國興)

Established in 1999, the Water Resources Management and Policy Research Center recruits experts in social studies, economics, political sciences and laws to provide the government, the private sector, and the public with consultations on water resources policies and management strategies. To date, the Centre has completed more than one hundred research projects for the National Science Council, the Council of Agriculture, and the Water Resources Agency of the Ministry of Economic Affairs. In 2001, Water Resources Agency of the Ministry of Economic Affairs ranked Tamkang’s Water Resources Management and Policy Research Centre as number one among its eight affiliated research centers.

There are currently three major tasks undertaken by the center to develop its research capacity, including providing overall water resources policies, establishing scientific management of water resources, and leading professionals in Taiwan to view the world from a new perspective. All the efforts were made to ensure the sustainability of water resources in Taiwan. In the mean time, the Center sustains its mission to nurture advanced experts in water resources, to integrate the inter-disciplinary knowledge, and to inspire professionals in Taiwan with new perspectives.

The Center is organized into seven divisions: Hydrologic Technology Crops, Policy Planning, Irrigation Management, Policy Extension, Information Development, Public Affairs and
Administration. In technology research and application, the main tasks done included recommending and evaluating modern hydrologic observation technologies, standard operating procedure for hydrologic observation and data quality, studying on hydrologic and water resources analysis methods and standard. In comprehensive planning service of the irrigation management, the center facilitates the analysis of the trend of water resource development and assists the government with irrigation policy. The most important mission of the Center is to undertake forecasting and studies to assist both public and private sector organizations in formulating effective water resources strategies. All research information and activities of the Center are available on the website (http://www.water.tku.edu.tw)

ENERGY AND OPTOELECTRONIC MATERIALS RESEARCH CENTER

Director: Ho, Chii-dong (何啟東)
Established in 2007, the Energy and Optoelectronic Materials Research Center is a multidisciplinary research facility located in the College of Engineering. Its research activities focus on the applications of renewable energy technologies and the development of new optoelectronic materials. Professional experts from the field of Chemical Engineering and Materials Engineering faculty, as well as faculty from other departments on campus, supports the Center's three major goals:
1. Research on renewable energy and advanced composite materials, processing and design.
2. Support of graduate and undergraduate education in the science and engineering of energy and materials.
3. Transfer of renewable energy and composite technologies to industries through seminars, short-term courses and collaborative research.
Findings of related studies can be expected to have contributions to the development of energy-related technologies such as solar collectors, photovoltaic cells, solar photovoltaic/thermal hybrid systems, and optoelectronic modules.

CENTER FOR DIGITAL LANGUAGE RESEARCH

Director: Kuo, Chin-hwa (郭經華)
Given the rise of e-learning in Taiwan and the development of the digital content industry, the university has coordinated its human resources and related resources to start an expansion of special features and to strengthen relationships between industries and academia. In February, 2008 the Center for Digital Language Research was founded to conduct research and to develop models and strategies for digital language learning, as well as further development of the E-Pen Writing System. In addition, the center specializes in the research of digital technology applications to language learning. The Center collaborates with organizations outside the university in research and development projects, product consulting, and academic meetings. It also assists TKU faculty members in conducting research projects related to the professional areas of the Center.
The Center features its research on the following areas:
1. Language Learning
   (1) Language Learning Resources, Tool Analysis and Collection
   (2) Language Learning Strategies and Methods Design
   (3) Language Learning Models and Curriculum Design
   (4) Language Learning Staff Training and Curriculum Design
2. Digital Technology
   (1) Development of Digital Calligraphy Tools
   (2) Development of Handwriting Technology
   (3) Development of Digital Language Learning Tools
   (4) Management of Learning Tools and Online Services
3. Digital Technology Applications to Language Learning
   (1) Digital Learning Environment Design, Development, and Maintenance
   (2) Digital Language Learning Course Design, Multimedia Assisting Tools Design and Organization
   (3) Management of Social Learning Groups, Provide Services to Learners and Instructors
CROSS-STRAIT FINANCIAL RESEARCH CENTER

Director: Lin, William T. (林蒼祥)

The Cross-Strait Financial Research Center was established in 2006, aiming at promoting research and facilitating related social services. The Center is affiliated to the Office of Research and Development of the University and operates on a self-contained basis.

The objectives of the Center are:
1. Promoting research related to cross-strait financial issues;
2. Conducting research projects commissioned by organizations outside the University;
3. Working on other issues or affairs related to cross-strait finance.

STATISTICAL SURVEY RESEARCH CENTER

Director: Wu, Chin-Chuan (吳錦全)

The Statistical Survey Research Center (SSRC) is established in May 2004, as an affiliate of the College of Management, and it has been affiliated to the Office of Research and Development since August 2005. One of the objectives of this Center is to nurture advanced scholars and professionals in management who are capable of conducting quality researches and related applications. In addition, this Center encourages applying theoretical knowledge to field studies.

National Cheng Kung University and National Chengchi University have established research institutes in related fields to explore issues relevant to data analysis and have used this type of analysis for educational purposes. The main objective of establishing the Center is to provide students in statistics and related fields with an additional site for learning and research. We expect our students to be able to use what they have learned to broaden their statistical knowledge. We also expect to advance the quality of education, to nurture scholars and statisticians in the theoretical or/and practical facet, to meet the future needs of the society, and to support data analysis research both inside and outside the university.

CENTER FOR EUROPEAN UNION STUDIES

Director: Kuo, Chiu-ching (郭秋慶)

The Center for European Union Studies (CEUS) was established in 2003. Affiliated with the Graduate Institute of European Studies and the European Info Centre (EUi) at Tamkang University, The Center aims to promote academic collaboration and international exchanges in the field of European Union studies. Our objectives include:
1. developing multi-disciplinary programs of EU studies, and research projects on the European Union and European Integration;
2. promoting EU-related research and academic exchanges with Tamkang University’s sister universities and academic institutions in Europe;
3. organizing international conferences, or academic events;
4. assisting research professionals and professors with their research or projects;
5. conducting research projects concerning EU policies commissioned by the government or private institutions.

As a member of EU-founded European Union Centre in Taiwan (EUTW), CEUS has been co-organizing EU forums, EU summer schools and EU-related activities with different colleges at Tamkang University and EU experts in industry or academic institutions since 2009 to further mutual understanding between Taiwan and the EU, and to promote EU studies in Taiwan.

CENTER FOR TECHNOLOGICAL AND OPERATIONAL DEVELOPMENT

Director: Tuan, Alex (段永定)

Established in 1996, this Center aims to:
1. mediate between academia and industry;
2. provide consulting services for the industry and enterprises;
3. conduct academic research;
4. organize international or local conferences, and provide related services.
Currently, the Center is conducting several research projects and is developing new relationships with industry and business leaders.

**Innovative Center for Cultural and Creative Industries (ICCCI)**

**Director:** Chao, Yaly (趙雅麗)

Innovative Center for Cultural and Creativity Industries (ICCCI) in Tamkang University is a pioneer academic center in cultural creativity industry (CCI) in Taiwan. In 2006, ICCCI launched into course design and collaboration collaboration between industry and academia and had considerable experiences in the field since then. In recent years, ICCCI has received many awards different governmental departments.

**Research and Development Center of Construction Law**

**Director:** Fan, Su-ling (范素玲)

The Research and Development Center of Construction Law is an independent forensic engineering and research center, providing construction-law-related services. Our missions are to bridge the gap between construction practitioners and legal personnel, and to provide judicial agencies with high-quality forensic analyses and case investigations.

The Research and Development Center of Construction Law aims to break the barriers among different professions, to build up mutual understanding among different areas of interest, to explore the interfaces among law, construction technology and management, and to incorporate techniques from different professions that might contribute to construction industry into this field.

**Center for Advanced Technology (CAT)**

**Director:** Wong, Ming-hsien (翁明賢)

To respond to the new market demands of green energy and environmental protection from which are the changes of international political regulations and national energy strategy thought adjustments, by adopting the crossover and innovation thinking, the Center for Advanced Technology (CAT) is defined as a bridge to the cooperation between industry and science academy. In a new era, it is essential to integrate cultural, social, and scientific studies into an organic knowledge economy system. CAT will transform the traditional research model, build the linkage of industry, market, and academy, and coordinate different research teams within Tamkang University, to eventually create new knowledge-based economy value.
PROGRAMS OF STUDY

CENTER FOR GENERAL EDUCATION AND CORE CURRICULUM

Director: Chen, Kuo-hua (陳國華)

The Center for General Education and Core Curriculum was established in 1995 to undertake a comprehensive reform of the University’s general education. The reform of core curriculum was based on the belief that students must be equipped with not only specialized knowledge but also great adaptability to the rapidly changing society, especially in their future career planning. Moreover, a whole person education approach aims to develop students’ strong sense of responsibility for themselves and for the society and sustainability for the global environment.

Currently, 370 faculty members from the Center or related departments teach in the Program. The Center functions as an independent department and is responsible for course design, pedagogic support and other related duties for the three major fields in the core curriculum: Social Analysis, Philosophy and Religion, and Arts Appreciation and Creation. Furthermore, the Center also offers common elective courses to meet students’ interests and needs.

Mission

The Center was established to develop core curriculum programs and to fulfill the ideal of general education. The courses enable students to make good use of information, to cultivate foresight, and to develop a global vision so that they can face various challenges in the new era.

The Center aims to improve the quality of general education and to prepare students for a changing world in the following areas:
1. Global consciousness
2. Social and moral reflection
3. Cultural enrichment
4. Creative and critical thinking
5. Communication competency
6. Aesthetic and interpretive understanding
7. Logical and mathematical analysis
8. Life-long learning and organizational skills

Faculty

Director and Associate Professor
Chen, Kuo-hua (陳國華)

Professors
Yeh, Shao-kuo (葉紹國)
Chen, Hsin-chih (陳杏枝)

Associate Professors
Hsu, Tsuo-ming (徐佐銘); Wang, Chih-ming (王志銘); Shieh, Philip (謝朝鐘);
Lee, Pei-pee (李珮瑜); Gan, Yung-ying (干詠穎); Sung, Angela Hung-yen (宋鴻燕); Han,
Kuei-hsiang (韓貴香)

Assistant Professors
Tai, Carol Chia-jwu (戴佳茹); Wang, Ling-kang (王靈康)

Lecturers
Hu, Yen-wei (胡延薇); Huang, Wen-chih (黃文智); Hwang, Yih-lin (黃奕琳);
Lan, Yu-hua (藍絮華); Lin, Yung-chi (林永吉); Yang, Huang-wen (楊煥文)

2010-2011 TAMKANG UNIVERSITY CATALOG
The Program

The General Education Program covers 4 major categories: Fundamental Courses, School-wide Core Courses, College-specific Core Areas and General Elective Courses.

Fundamental Courses

1. Chinese Language (3 credits) The course aims to improve students' communicative competence and to enable them to express themselves in an elegant and a precise manner.

2. Foreign Languages and Drills (8 credits) The course helps students learn the basic concepts of a foreign language and the social life and culture of its country. The course aims to heighten students' interest in learning and to improve their communication skills.

3. Information Education (4 credits) The course aims to teach students proper ways of using the computer system, and to fulfill the goal of information-oriented education, one of the triple objectives of the University.

4. Global Technology Revolution (2 credits) This course introduces the development of sciences and technologies in the 20th century and their potential impacts on our life and the environment.

School-wide Core Courses

1. Global Outlook (2 credits) The course familiarizes students with concepts relevant to international relations and aims to heighten students' global awareness and to better understand the modern world.

2. Futures Studies (2 credits) Futures Studies encourages a forward-looking perspective and a perspective that looks into the society, technology, economy, environment, and politics of the future world.

3. Learning and Development (2 credits) This course aims to equip students with abilities to accomplish their academic learning in university and to become capable, independent, and self-motivated learners.

College-specific Core Courses

1. Classical World Literature (2 credits) Through the analysis and appreciation of Chinese and Western novels, poetry, prose, and well-known literary works, students are led into the realm of world literature and develop insights into its classics.

2. Natural Sciences (2 credits) The course helps students explore the laws of nature and learn the principles of natural sciences. Non-science majors may have an opportunity to broaden their horizons through study of sciences.

3. History and Culture (2 credits) The course aims to develop students’ ability to view and analyze historical events and to help students gain some objective and useful knowledge in history.

4. Arts Appreciation and Creation (2 credits) The course invites students to appreciate and analyze art works and guides students with special interests and talents into the fascinating world of arts.

5. Civil Society and Participation (2 credits) The course provides students with general ideas about constitutional law and basic understanding of law. It aims to equip students with basic legal knowledge with a view to becoming a well-rounded citizen.

6. Social Analysis (2 credits) The course aims to arouse students' interests in social problems and to urge them to think over the moral standards of our society. The course also encourages students to overcome any difficulties in life and to live a healthy life.
7. **Philosophy and Religion (2 credits)** The course encourages students to observe and analyze things and reminds students that philosophy and religion are parts of human life, rather than spiritual constraints to limit human life.

**Common Elective Courses**

School-wide elective courses are designed based on students’ interests and their needs and technological, social, and economical changes. Courses apply problem-solving and action-learning instructional approaches.

**The Organization of the General Education Committee**

**The Executive Level**

- Vice President for Academic Affairs, also entitled the Director in General.
- Dean of the College of Education, also entitled the Deputy Director in General.
- Director of the Center for General Education and Core Curriculum, also entitled the Executive Secretary.

**Fundamental Courses and Coordinators**

1. Chinese Language  
   Coordinator: Chair of the Chinese Department

2. Foreign Languages and Drills  
   Coordinator: Chair of the English Department

3. Education in Information Technology  
   Coordinator: Chair of the Computer Science and Information Engineering Department or Chair of the Information Management Department

4. Global Technological Revolution  
   Coordinator: Dean of the College of Science

**School-wide Core Courses and Coordinators**

1. Global Outlook  
   Coordinator: Dean of the College of International Studies

2. Futures Studies  
   Coordinator: Chair of the Graduate Institute of Futures Studies

3. Learning and Development  
   Coordinator: Chair of the Graduate Institute of Educational Psychology and Counseling

**College-specific Core Courses and Coordinators**

1. Classics in World Literature  
   Coordinator: Dean of the College of Foreign Languages and Literatures

2. Natural Sciences  
   Coordinator: Dean of the College of Science

3. History and Culture  
   Course Design Director: Chair of the History Department

4. Arts Appreciation and Creation  
   Coordinator: Faculty of the Center for General Education and Core Curriculum

5. Civil Society and Participation  
   Coordinator: Chair of the Public Administration Department
6. Social Analyses  
Coordinator: Faculty of the Center for General Education and Core Curriculum

7. Philosophy and Religion  
Coordinator: Faculty of the Center for General Education and Core Curriculum

**Common Elective Courses**  
Coordinator: Director of the Center for General Education and Core Curriculum

**Course Descriptions**

**Fundamental Courses**

**Chinese Language**

**A1376 Representation of Spoken and Written Chinese (3/0) (0/3)** This course aims to improve students' oral and writing ability in Chinese and to help them appreciate the value and beauty of Chinese language.

**Foreign Languages and Drills**

**A0050 English (2) (2/2)** This course is an extension of English (1) designed to further strengthen students' English proficiency.

**A0175 Japanese (2) (2/2)** This course is an extension of Japanese (1). It aims to further develop students’ communication skills including speaking, listening, reading, and writing.

**A0766 German (1) (2/2)** This is a beginning level course for German language study. After completion of the course, students are expected to have basic German communication skills through using audio/video materials and through group practice. It is also a useful course for students who wish to study in Germany.

**A0767 German (2) (2/2)** The course aims to develop students’ basic German proficiency and to provide students with training and drills in conversation and reading comprehension in German.

**A1328 Spanish (2) (2/2)** This course is designed for students who have acquired basic knowledge of Spanish syntax. It focuses on the application of basic vocabulary for oral expression.

**T0466 English (1) (2/2)** This course is designed to develop students' English reading skills and to enhance their awareness and concerns for contemporary cultural issues.

**T0467 Japanese (1) (2/2)** This introductory course aims to develop students’ basic proficiency in Japanese. It relates study of Japanese to personal interests. Students must attend regular class meetings plus tutorials.

**T0470 Spanish (1) (2/2)** This is a fundamental Spanish course. It covers pronunciation, verb conjugations and simple daily-life sentences.

**T0479 French (1) (2/2)** This course introduces the basic French vocabulary, sentence patterns, grammar structures, and French culture and daily life.

**Education in Information Technology**
E1034 Introduction to Information Science (2/2) This course covers: (1) Introduction to information society; (2) Computer networking and communications; (3) Data processing; (4) Hardware of computers; (5) Software of computers; (6) Multimedia; (7) Computer programming.

Global Technological Revolution

H0003 Global Technology Revolution (2/0)(0/2) This course presents an introduction to the development of sciences and technology in the 20th century and their potential impacts on our life and environment.

School-wide Core Courses

Global Outlook

T0123 International Organization (2/0)(0/2) The course covers an introduction to some important international organizations such as UN, WTO, EU, NAFTA, ASEAN, IMF, World Bank, ILO etc. The course aims to provide students with basic knowledge of international organizations and to broaden students’ international viewpoints.

T0537 The Development of Globalization (2/0)(0/2) This course introduces students the formation of neo-liberalism and Washington Consensus. The topics of globalization will be focused on the economic dimension, such as the movement of goods, services, people, and capital. Besides, the activities done by anti-globalization will also be discussed.

T0831 Current International Politics (2/0)(0/2) This course focuses on international relations. Two parts of International relations will be introduced: the big and small countries such as U.S.A., Britain, French, Germany, Netherlands, Ireland, and Palestine and international trends toward globalization and regionalism.

T0832 European External Relations (2/0)(0/2) There are three parts covered in the course: First part: The European Union (EU) and the global role of EU in the 21st century. Second part: European external relations: EU-Taiwan, EU-America, EU-USA, EU-Asia, EU-China, EU-Japan, EU-Russia, EU-Australia, EU-India, EU-Africa. Third part: Conclusion and Perspectives.


T0834 The EU and its integration (2/0)(0/2) This course introduces the creation and historical evolution of the European Union. The primary goal of this course is to provide a broad understanding of the past, present and future of the EU. Through this course, composed with several EU related themes, students will learn how the EU works and its achievements in the common policies.

T0835 Globalization of Culture (2/0)(0/2) One of the objectives of this course is to develop students’ multi-culture concept. This will be approached through comparison of cross strait culture and education. Another objective is to provide students with knowledge required to face the world.

T0836 Political and Economic Development (2/0)(0/2) This course focuses on overall political and economic issues in the so-called “third world” countries. We will discuss why some countries are under-developed, what problems they are facing in the course of development, and how to deal with those problems. Development is not an easy issue to be defined, so the course will adopt interdisciplinary approach. While starting with the political and economical dimension, the course will also explore some cultural and ethical issues.
T0837 East Asia and World Affairs (2/0)(0/2) East Asia has emerged as a powerful entity representing economical growth in the 1980s. The goal of this course is to explore the East Asia community. The East Asian countries have been working hard for economic prosperity, political stability and environmental security. At a time when the East Asia is trying to be integrated as a united entity, Taiwan should be corresponded to this trend and fused into this community.

T0838 The global system and Cross-strait relations (2/0)(0/2) The course aims to explore the status quo, problems, and prospects of the relation between the global system and cross-strait relations under the evolution of the global system today.

T0839 Economic Globalization (2/0)(0/2) This course aims to explore how politics has been used to shape the economic system. We will make a clear, coherent, and comprehensive discussion of how economic globalization (which embraces diverse forms of international integration, including foreign trade, multinational direct foreign investment, movement of short-term portfolio funds, technological diffusion, and cross-border migration) works and how it can be done better.

T0840 The America Today (2/0)(0/2) This course encourages students to look at the whole America from a global perspective. Tracing back to the colonial days can reveal the fundamental development of the contemporary America. An overview of the status quo of America will follow to explore its politics, economy, society, culture and foreign relations.

T0841 International Non-governmental Organization (2/0)(0/2) This course aims to explore how civil societies build democratic politics. One of the objectives for INGO is not only to show their dissatisfaction with the state and the government, but also to built a global civil society.

Futures Studies

T0176 Futures Studies in Environment (2/0)(0/2) This course focuses on the construction of a balanced personal value structure for both the environment and economy. The following topics are discussed: multi objective concepts, rationality, implications of the environmental crises, personal value adjustment and the environment, and the importance of morality.

T0864 Environment Change and Sustainable Development (2/0) (0/2) This course focused on the development of a technological society and issues relevant to the society that might turn out to be a society at risk, power structure and sustaining development. The study might give a new insight into the development of high technologies.

T1178 Futures Studies in Economics (2/0)(0/2) The purpose of this course is to help students create economic alternatives and to assist them in rethinking and then shaping their future.

T1179 Futures Studies in Society (2/0)(0/2) This course suggests different ways of looking into the futures of the society. Developing more sociologically- and future-oriented attitudes would be useful for social scientists in search of an epistemological basis to predict the future.

T1180 Futures Studies in Technology (2/0)(0/2) This course is divided into three parts: 1. The Automation of the Future; 2. City of the Future; and 3. An introduction to information technology.

T1208 Futures Studies in Politics (2/0)(0/2) This course focuses first on the definition, principles, characteristics and the framework of futures studies in politics; second, on providing students with a brief history and development of human society. It also analyzes the causes and effects of political cultures, political behaviors, political participation and political negotiation.

T2052 Multiculturalism and Global Society (2/0) (0/2) This course aims to explore and examine the political, economical, and social impact of the emerging multiculturalism and globalization. We emphasize that the new cultural empire, in particular the American value and lifestyles, will gradually influence the society worldwide, including Taiwan.

T2159 Health, Leisure, and the Future (0/2) This course focuses on mountain sports in Taiwan and around the world. It introduces the historical and cultural dimensions of mountaineering, and deals with
issues such as colonialism, aboriginal policy and identity, gender construction, feminist theory, environmental issues, technology, consumerism, and the effects of military mobilization and national identity on social forms of leisure.

**T2162 Knowledge-Based Economy and Society (2/0) (0/2)** Information exchange processes provide a mechanism of social coordination in addition to economic exchange relations and political and managerial control. Knowledge-based innovation systems thus provide us with a system of social coordination in terms of communication that is potentially coded differently in scientific and market domains. Related topics will be discussed in this course.

**T2163 Global Futures (2/0) (0/2)** The debate on globalization has been going on in a variety of fields for some time. As such a global framework emerges, an increasing number of academic discussions focus on the global futures – the framework of cooperation among corporations, governments, and advocacy groups to resolve conflict and create opportunity. In this course, diverse issues regarding global futures will be discussed.

**T2187 Futures Studies and The Trend of Sports Culture (0/2)** Sports are not only human physical activities, but also implications having to do with economic development, intersocietal competition, and global trend. Sports culture in one society reveals its conventional rituals and spirits. This course aims to introduce the framework of Futures Studies to explore the multifarious aspects of sports culture, and to develop a solid understanding of the most important activities of human beings.

**T2189 Classic Readings of Futures Studies (0/2)** The course is designed to combine basic concepts of futures thinking with literature to develop deeper thoughts and to cultivate interest in pursuing integrated knowledge of futures studies.

### Learning and Development

**T0863 Learning in University(2/0)(0/2)** The course aims to provide students with basic knowledge and skills required as university students and help students to have better understanding of their own learning styles, learning strategies, and emotional adjustment.

**T0871 Motivation and Stress Management (2)** The main purpose of this course is to help students learn some theories concerning motivation and application of stress management. The course covers the psychological aspect of motivation and stress, stress management skills and strategies, etc.

### College-specific Core Courses

#### Classics in World Literature

**A0377 Classical Mythology (0/2)** This course aims to provide students with some fundamental myths and background knowledge of the classical world. Special attention is paid to the visualizations of Greco-Roman myths and the early Western civilization, with an emphasis on recurrent motifs or figures, mythic allusions, and the intellectual or religious aspects. This course is also designed to provide students with an opportunity to look at ways of representing myths done by Homer and Greek playwrights.

**A1344 Appreciation of Modern Chinese Literature (2/2)** This course explores the development of Chinese literature from 1919 to 1949, with an emphasis on the history, competition, and schools of literature in this period.

**A2036 Appreciation of Chinese Classical Literature (2/2)** This course provides an introduction to the history and development of Chinese classical literature, including various genres and creative writing.

**F0807 Japanese Literature and Translation (2/0)** This course introduces Japanese literature in chronological sequence to make students better understand the literary texts. Through translation,
students will appreciate Japanese literature and acquaint themselves with the true spirits of Japanese culture.

**F0808 The Bible as Literature (2/0)** This course aims to explore the relationship between the Bible and literature. We will mostly focus on the Bible in our study and discussions, though sometimes it is inevitable to discuss eastern mythological thinking at the same time to do comparison and contrast. Students are required to do group presentation and point out the biblical allusions used in related movies and literary works.

**F0809 Introduction to Goethe (2/0)** This course introduces the life and major works of Johann Wolfgang von Goethe.

**F0810 Selections of Japanese Novels and Movies (0/2)** This course focuses on the differences between the novels and the movies adapted from them. Special attention is paid to the differences between the words used in the novel and the images presented in the movie. Hopefully students will have better understanding of Japanese culture and the thoughts of the Japanese through group discussion.

**F0811 Introduction to Schiller (0/2)** An introductory course focusing on the life and major works of Friedrich von Schiller.

**Natural Sciences**

**S0349 The Spirit of Science: Matters and Men (2/0)(0/2)** This course deals with the spirit of science: acts of matters and behaviors of men. It is expected that students, regardless of their majors, will learn how to make use of science.

**S0353 Living Logic (2/0)(0/2)** This course covers principles of deduction and induction, relations among proofs and logic, and reflections on the process of thinking.

**S0358 The Physics and Life (2/0)(0/2)** This course covers the following topics: mechanics, waves, heat, electricity and magnetism, light, atoms and lasers, nuclear physics, relativity, and superconductivity.

**S0362 Exploring the Universe (2/0)(0/2)** This course presents an introduction to the solar system, the stars and galaxies, and the universe as a whole, including a brief account of the major advances in astronomy.

**S0363 Enjoying Mathematics (2/0)(0/2)** This course presents an introduction to the history and development of mathematics by exploring some key problems, conjectures and games.

**S0366 Chemistry and Life: Chemistry, Inorganic Materials and Society (2/0)(0/2)** The course focuses on the relationship between chemistry, inorganic materials and the society. The following topics are introduced: semiconductors, metals, superconductors, optical and magnetic materials, ceramics and battery materials.

**S0368 Chemistry and Life: Chemistry, the Environment and Society (2/0)(0/2)** This course focuses on the local environmental issues, tries to elucidate those issues, discusses related social problems, and proposes possible solutions.

**S0369 Chemistry and Life: Chemistry, Medicine and Society (2/0)(0/2)** This course introduces basic chemistry concepts related to medicine, and discusses social events related to medicine and chemistry. Topics include basic drug chemistry, mind chemistry, vitamin chemistry, love chemistry, cancer chemistry, as well as chemistry of traditional medicine.

**S0377 Life Sciences: The Subtlety of the Human Body (2/0)(0/2)** This course covers the following topics: the body plan the world inside the womb, growth and change, the nimble limbs, cold and warm, the operation of nerve, the confusing brain, heart and vessels, breathing, blood as the spring of life,
viewing through our body, and the body defensive system.

S0690 Life Sciences: Gene Technology and Health (2/0)(0/2) This course presents an introduction to recent developments in DNA, genes, and modern biotechnology, as well as the health care of our life.

S0727 Light, Photography and Vision (2/0)(0/2) This course offers an introduction to the basic properties of light, photography, holography, eyes and vision, and optical instruments.

S0738 Chemistry in Daily Life (2/0)(0/2) This course explores the general principles of chemistry we encounter in our daily life, such as in foods, medicine, environment, materials, electronics, detergents, plastics, and natural and synthetic fibers.

S0747 A Journey to the Wonderland of Mathematics (2/0)(0/2) This course is designed for the general education and core curriculum program in the category of natural science. It deals with many interesting aspects of mathematics such as mathematical games, mathematical puzzles as well as popular mathematical conjectures. The course also introduces the relevance of mathematics to our daily life. By presenting the life stories of famous mathematicians, this course offers an overview of the development of mathematics.

S0748 The Way Science Works (2/0)(0/2) From transportation to nuclear power, from computer to biotechnology, this course demystifies the mechanism of many instruments and machines. Designed for students from different academic backgrounds, this course helps them establish a positive attitude toward the new sciences and technologies in this changing world and in the future.

S0749 The Semiconductor in Life (2/0)(0/2) This course introduces some concepts related to the semiconductor, microelectronics, integrated circuitry and the computer. Some electronics containing microprocessors will also be discussed.

S0750 Mathematics in Life (2/0)(0/2) This course uses examples to introduce students to the following topics: probability and expectation; confidence interval; the history of infiniteness; strategic thinking; the history of e and \( \pi \); the chaotic phenomena; fractals geometry; cryptography and Euclidean geometry and its application.

S0751 Life Sciences: The Era of DNA Technology (2/0)(0/2) This course offers an introduction to recent developments in DNA related technology and their impact on life sciences and medicine, as well as our society viewed from legal and moral perspectives.

S0784 Understanding Data (2/0)(0/2) This course introduces the concept behind statistics, namely, how data can be collected, summarized, and how information can be extracted from data.

T2166 A Journey to Science (2/0)(0/2) What is science? What does science mean to us? This course offers an opportunity with rich information and a broad vision to examine the path of science and to search for the true meaning of scientific civilization.

T2167 Chemistry and Life: Chemistry, Food and Society (2/0)(0/2) This course introduces basic chemistry concepts related to food, and discusses social events related to food and chemistry. Topics include basic nutrition molecules, vitamins, cancer-related food, soft drinks, wine, healthy food, gene food, etc.

History and Culture

Category I : History of Taiwan

A1822 The Development of Science and Technology in Taiwan (2/0)(0/2) This course covers a general history of the development of science and technology in Taiwan in terms of agriculture and national defense.
A2410 Exploring Historical Culture and Antiques of Taiwan (2/0)(0/2) This course aims to develop students’ concerns about the history of Taiwan by studying documents and doing fieldwork in local historical sites.

A2507 History of the Development of Taiwan (2/0)(0/2) This course covers four periods of the history of Taiwan: first, the period of Spain and Dutch; second, the period of the Ming Dynasty and Ming Royalist Ruling; third, the period of the Qing Dynasty; fourth, the period under Japanese Ruling. It explores the impacts of these four periods on the development of Taiwan.

A3454 Exploring the History of Taiwan (2/0)(0/2) The objective of this course is to increase students’ knowledge of Taiwan’s history and culture.

Category II: History of Society and Culture

T1608 An Overview and Appreciation of Modern Publications in Taiwan (2/0)(0/2) The course aims to introduce the development and guide students to appreciate the publications in modern Taiwan, 1949-2005.

A1813 European Civilization (2/0)(0/2) This course presents an introduction to Western civilization with a focus on its strengths and weaknesses.

Category III: Persons in History

A2062 Chinese History and Historical Figures: An Introduction (2/0)(0/2) This course places historical figures in their historical contexts to see the interaction between people and time.

A2062 Chinese History and Historical Figures: Types of Historical Institutions (2/0)(0/2) This course focuses on the backgrounds, the roles and the influences of different types of Chinese historical institutions.

A2368 Modern Historical Events (2/0)(0/2) Through treatments and analyses of some important historical events as well as related aristocracies, this course will lead students to realize the truth of history, the intergradations of historical events and the logos of significant historical figures.

A2505 Western History and Historical Figures (2/0)(0/2) This course covers two sections. The introductory section explains how to analyze and assess historical figures. The other section aims to choose major historical figures in the Western history and to provide critical studies of their lives, actions and outstanding contributions.

Arts Appreciation and Creation

A0544 Basic Elements in Music (2/2) Music plays an important role in our life. It enhances our perspectives in aesthetics and spirituality. In order to appreciate music, we need to understand its core elements. This course aims at introducing basic elements that appear in all kinds of music. Students will be able to analyze music and develop a more critical ear while listening to music.

A1788 Tradition and Appreciation of Chinese Calligraphy and Painting (2/2) Calligraphy, originated in China, is one of the major forms of Chinese art. Having the ability to appreciate it, we can get access to the spiritual ideas and aesthetics of Chinese painting. The close relationship between calligraphy and Chinese painting influences the historical development and aesthetics of both. In this course, we will identify different styles of Chinese calligraphy and painting in history. We will also discuss the metaphysical aspects in the tradition of Chinese calligraphy and painting.

F0106 Art Creation and Expression (2/2) This course will be presented in four steps: first, presentation of masterpieces; second, examination of the process to create an art work; third, creation of personal works; fourth, discussion of students’ art projects.

T0334 Digital Content Development (2/2) Digital content involves the Web content, digital publication, multimedia, blog, portal sites, and Web design and aesthetics. This course will combine
theory and practice in these fields.

**T0335 Introduction to Visual Arts (2/2)** The course offers a basic introduction to the history and development of visual arts in Chinese and Western civilization. It presents a general concept of "image" in these two different cultural types. The social and comparative history of arts will be introduced in this course. The course objectives are:
1. Developing basic knowledge of the development of visual arts in history;
2. Understanding the connection among art, culture and society;
3. Comparing different concepts of "image" in different cultures;
4. Acquiring basic competence to appreciate visual arts.

**T0336 Introduction to Digital Arts (2/2)** Digital arts cover visuals, video, animation, music, texts and archive. This course will combine theory and practice in these fields.

**T0647 Appreciation of Music and Drama (2/2)** Drama is an art that combines many different art forms such as music, fine arts, and dance. Among these art forms, music is a significant element in a drama. In this class, we will mainly focus on musical drama viewed from different cultural backgrounds. Therefore, Chinese opera, Western opera, and Broadway musical will be our three main topics. Recognizing that this class is primarily for non-music and non-drama majors, we will introduce basic knowledge and appreciation of music and drama. Outside this class, students will be encouraged to attend performances related to the topics we covered in this class.

**T1287 Appreciation and Interpretation of Music Masterpieces (2/2)** This course introduces masterpieces of Western music, with a focus on world-class composers and analyses of their musical theories. In this class, students will learn to interpret and appreciate the art and logic of Western music.

**T2006 Exploring the Art of Singing (2/2)** This course aims to teach students proper ways of singing, and to introduce to them different types of vocal music, such as jazz, musical, lieder, folk song, Chinese art song and opera.

**T2009 Techniques and Appreciation of Sculptural Art (2/2)** This course introduces sculptural art as a three-dimensional object in representational or abstract form.

**T2013 Appreciation of Western Opera (2/2)** This course introduces the origin and development of Western opera and its stories and authors. Students will also learn to analyze and interpret different operatic styles.

**T2014 The Art of calligraphy (2/2)** This course introduces different applications of traditional calligraphy to arts.

**T2016 Basic Sketching Skills of Model Art (2/2)** This course intends to train students’ coordination between eyes and hands to help students create an artwork. Moreover, arts, the history of arts, and contemporary thoughts relevant to arts will also be introduced.

**T2021 Development of Western Art (2/2)** This course offers an introduction to certain periods of Western art, including Classic, Byzantine, Romanesque, Gothic, Renaissance, Baroque, Rococo, Neo-classic and Romantic, in painting, sculpture, architecture, craft, etc.

**T2104 The Art of the Piano (2/2)** The piano, unique musical instrument, has played an important role in our life and in every corner of our society. Since the Baroque time, the piano has emerged as a musical instrument that played in almost every musician’s performance for three hundred years. Among the greatest musicians, Chopin is the most unique one who composed mostly for piano performance; and indeed, his music has attracted many people. This course intends to lead students into the essence, spirit, and beauty of the piano music, including classical, popular, new age and jazz styles. We will discuss how a pianist “becomes” a real artist. Topics include personality traits, career choices, and life conflict inside the mind. Class demonstration and live concert will be the modes of this course.

**T2105 The Dialogue Between Music and Art (2/2)** This course provides ways to explore music,
painting, literature and drama through an analysis of their common elements.

**Civil Society and Participation**

**T2207 Constitutional Law and Human Rights (2)** This course discusses the defense of human rights based on the Constitution of the Republic of China, including the study of cases that happened in Taiwan.

**T2211 Information and Laws (2/2)** This course starts with the role of law in the digital era and introduces the legal system in the field of information technology. It covers Internet IPR laws, telecommunications laws, electronic signatures laws, computer-processed personal data protection laws, laws for consumer protection in electronic commerce, laws for cybercrime, etc.

**T2212 Technology and Laws (2/2)** This course introduces the impact brought about by the advancement of technology upon the legal system and how the system can be adjusted to resolve the issues emerging from the interaction between technology and law.

**T0805 Business and Law (2)** The major objective of this course is to introduce to students basic rights and obligations in law of an enterprise under Civil Code and Company Act, regulation regime for enterprises, corporate governance and management, and employees disputes etc. This course will also refer to some cases in the real world to give students opportunities to practice and to make the lessons more understandable.

**T0812 Sustainable Development and Democratic Participation (2)** One of the goals of sustainable development is to meet human needs on the one hand and to preserve the environment on the other. Its success requires active participation from different industries in various countries. This course will introduce some concept and the scope of sustainable development and use case studies to show how different industries can contribute to sustainable development. Industries covered in the course include the computer, automobile, food, beauty and fashion, and financial industries. Governmental efforts to pursue sustainable development both domestically and internationally will also be presented, along with local examples of community participation in sustainable development. This course will use materials from the United Nations Environment Programme, CNN, Discovery, and various web sources to illustrate recent trends in sustainable development. In so doing, it will provide students with the latest information on this topic, deepen their interest, and help them develop creative ways of seeking sustainable development in the future.

**T0811 Civil Participation (2)** This course will introduce various theories of public participation ranging from the classic political thought to contemporary political science. Some approaches to participation in political practice will also be explored in the course. Teacher and students will discuss some real cases of civil participation in modern policy cycle that they encountered aboard or in Taiwan.

**T0807 Introduction to Law (2)** In this course, we will introduce fundamental legal concepts by using the standard legal textbook. First, we will define “law” and discuss the differences between law and the other social norms such as morality, religion and politics. Second, we will discuss different forms of law, such as the Constitutional Law, Legislative Law, Executive Order, Local Regulations, and Treaties. Third, we will discuss the Habitual Law, Legal Theory, and Legal Interpretation. Fourth, we will discuss different types of law viewed from different criteria. Based on the tradition of the legal arena, we will then divide the course into three sections: the Civil Law, the Penal Law, and the Public Law. In each section, all the students taking the course must participate and report in class, following the textbook chapters to ensure active and positive learning.

**T0806 Life and Law (2)** In this course, we will introduce fundamental legal concepts using common legal problems in our daily life. Based on the tradition of the legal arena, we divide into three sections in this course. The first one is the Public Law. In this section, we will cover topics ranging from administrative organizations to the human rights in the Constitutional Law. The second one is the Civil Law. In this section, the topics we will cover range from buying a coke to consumer protection. The third topic is the Penal Law. In this section, the topics we will cover range from a criminal behavior to the prosecutor and court acts. All the students taking the course will be divided into four or five groups,
and each group is responsible for three 40-minute and 15-pages summary reports to ensure participation in practical learning.

**T0808 Democratic Politics (2)** This course provides a comprehensive introduction to democratic politics. It covers some classical topics such as concepts of politics, definitions of democracy, models of democracy, democracy and globalization, and democracy and its critiques. This course also examines a number of contemporary issues as well as future prospects of democratic politics.

**T0873 Gender, Life and Law (2)** Lectures in this course will provide students with essential and practical legal knowledge, and the teacher will present some legal cases related to family law, civil law, criminal law, etc. for students to better understand some legal issues that involves the two sexes and person life. For example, is abortion guilty or not in Taiwan? What legal actions can one take to deal with domestic violence? The lecture will use interesting legal cases to guide to explore the legal world.

**T0813 Civil Culture (2)** What does civil society mean to us? Do we have global civil society? What is the role citizens play in the contemporary world? Are human rights universal or are they based on cultural differences? Does culture matter in international relation and what is its impact on international relation? These are the questions we will try to answer in the course. In the class, students will learn general concepts of civil society and will explore different dimensions of the topic, especially we will focus on norms and activities.

**T0809 Civil Society (2)** This course introduces basic concepts of civil society and general rights and obligations of citizens. It also discusses how civil society helps advance social justice, accumulate social capital, strengthen democracy, and increase our capacity to deal with crisis and to fight against climate change. Finally, the course discusses how the development of social media affects the civil society.

### Social Analysis

**A1636 Interpersonal Relationships and Communication (2/0)(0/2)** This course aims to explore the nature and interactional rules under various types of relations among individuals in a family within a society. Moreover, we will also explore the possibility of improving those relationships through interpersonal communication skills.

**A1970 Introduction to Economics (2/0)(0/2)** This course covers important topics in economics. We will use examples from our daily life to help students understand how economics works.

**T0066 Social Psychology (2/0)(0/2)** The course will first help students understand how an individual’s behavior is shaped by groups and by the social environment. Next, various social psychological theories will be introduced to enhance self understanding and to improve social interaction with the people around us.

**T0160 Family and Marriage (2/0)(0/2)** This course discussed the relationship between family and marriage and how emotional, physical, and economic support can be provided.

**T0161 Culture and Mental Health (2/0)(0/2)** This course aims to explore the multiple facets of mental health, that is, how individuals can adjust themselves to the environment using cultural, social, and medical models.

**T0162 Job Market and Career Management (2/0)(0/2)** This course provides students with some key factors that will help them enter the job market successfully and familiarizes them with the career management mechanism in organization.

**T0169 Human Rights and Social Justice (2/0)(0/2)** This course aims to investigate the relationship between human rights and social justice. Special attention will be paid to the following questions: 1. What are the relationships between human rights and social, economic, and cultural rights? 2. Given that human rights (the right to personal security, freedom from torture, etc.) are fundamental entitlements, what kind of cultural, social and economic inequalities are present to prevent us from
realizing them? 3. How can we set up cultural, social and economic equalities (social justice) to ensure the individual’s right to liberty? Students are encouraged to discuss practical issues in daily life.

T0189 Media, Mass Communication, and Culture (2/0)(0/2) This course offers an introduction to media and mass communication, focusing on different communication cultures in different countries.

T0216 Mental Health Counseling and Management (2/0)(0/2) This course aims to help students understand various interpersonal interaction styles, learn effective self-help skills, grasp some concepts of mental health, and develop a mental health management model. The course will require students to attend class lectures, group discussions and field trips to mental health organizations.

T0350 Society Changes and Social Education (2/0)(0/2)

T0351 Gender Roles and Relationships (2/0)(0/2) This course offers an overview of the current literature pertaining to gender issues in the society, with a special emphasis on the process of gender differentiation as well as gender relationships.

T0829 War and People (2/0)(0/2) This course focuses on human nature in facing the war. This topic will be discussed from different perspectives such as the society, psychology, arts, and others. Furthermore, by centering on human nature, this course will also analyze different wars, their causes and their impacts on people.

T1215 Traditional Society and Social Changes (2/0)(0/2) This course focuses on the mechanism and theoretical models of social changes and introduces general trends in social changes in Taiwan and in the world.

T1594 Principles of Developmental Psychology (2/0)(0/2) This course examines changes in human cognition, behavior and emotion, and causes of these changes. Some major areas of human development and major psychological theories will be introduced in the course, with a focus on topics relevant to personality and social development.

T1822 Principles of Psychology (2/0)(0/2) In this class, students will learn how our brain functions, how we become anxious during an exam, what an IQ score means to us, why we develop psychological symptoms, how our personality changes, what abnormal behaviors are, how we perceive others, and many more factors that effect our life.

T1832 Principles of Sociology (2/0)(0/2) The course helps students understand the relationships between individuals and the society. The behavior of an individual occurs in a societal context of institutions, culture, groups and interactions that shapes what people do and think. In the course, a brief introduction to the general theories and research methods in this field will first be offered. Then, some current important topics relevant to sociology will be addressed.

T1891 Introduction to Politics (2/0)(0/2) This course offers an introduction to politics, interest group, political party and election system, the typology of political system, political culture, as well as issues related to public policy.

T2022 Psychology in Cyberspace (2/0)(0/2) This course aims to introduce to students some social and psychological theories, to help students understand themselves and apply the theory of cyberspace to reconstruct their own values.

Philosophy and Religion

1. Basic Courses

M0556 Logic (2/0)(0/2) This course offers a general introduction to symbolic logic. It is designed for students without prior knowledge of either logic or mathematics, and it covers all basic topics through relational predicate logic with identity. This course is offered in the belief that any single student can master symbolic logic, and it is designed to give students as much help as possible to achieve the
mastery.

T0099 Ethics (2/0)(0/2) Ethics are inquiries into the principles and presuppositions operated in our moral judgment. When we say something is wrong or it may lead to bad results, what is the principle or are the principles upon which this right-wrong distinction rests? Can it be defended? These questions will be addressed in this course.

T0100 Introduction to Philosophy (2/0)(0/2) This course has two objectives: (1) guiding students to observe and view our life in a philosophical way and (2) encouraging students to further read classical philosophical works, such as those done by Plato, Aristotle, Descartes. Class discussions might include the following topics: (1) knowledge and perception; (2) the question of reality (3) man and God; (4) freedom and responsibility; (5) moral theory; (6) foundation of government; and (7) aesthetic experiences.

T0338 Selected Readings in Philosophy (2/0)(0/2) This course is offered for students without prior knowledge of philosophy. It is designed with practical rather than theoretical considerations in mind.

T0339 Introduction to Religion (2/0)(0/2) The course aims to provide students with an overview of Buddhism, introducing what Buddhism is, the life of Sakyamuni Buddha (Buddha), main teachings (Dharma), history and development of Buddhism, and practice of Buddhism in daily life.

T0348 Thanatology (2/0)(0/2) The study of thanatology involves both vertical and horizontal dimensions. The vertical dimension covers four disciplines, namely thanatology education, terminal care, grief consultation, and funeral management and the horizontal dimension encompasses six disciplines, namely philosophy, religion, psychology, sociology, biomedicine and nursing studies.

2. Applied Ethics

T1056 Religion and Life (2/0)(0/2) This course aims to help students understand the nature of many popular religions and strongly encourages practice of these core religious or their spiritual principles in their daily life. All students taking this course have to do meditation (daily) and to write spiritual journals to develop their spiritual growth.

T1810 Business and Ethics (2/0)(0/2) This course introduces basic doctrines of moral philosophy by presenting actual cases in the business arena to help students understand the role these doctrines play in the business world and how relevant issues may affect their personal lives. The course aims to cultivate the ability and habitual practices of reasonable reflection and decision on moral issues.

T1238 Environmental Ethics (2/0)(0/2) This course investigates the following main issues: 1. What are the global and local environmental problems relevant to ethical life? 2. Do we have any ethical reasons to support our enterprise with environmental protection?

T2005 Literature and Philosophy of Eroticism (2/0)(0/2) If life is a duet of sensibility and rationality, then literature and philosophy are the works of life. Among these works, eroticism is the main theme of human life. As a course of core curriculum, Literature and Philosophy of Eroticism aims to explore the palace to and to analyze the movement of eroticism.

General Elective Courses

A2656 Digital TV/new Media (2/0) This course aims to introduce the development of Digital TV in Taiwan, followed by discussions of recent advances in the Internet TV / New Media applications. The course will focus on the evolution of the digital convergence, the industry business environments, and the related regulations. Case studies and demos will be delivered whenever is applicable.

T0234 Safety and Health Education (2/0) One of the goals of this course is to familiarize students with basic concept of environmental safety and hygiene, and to help students understand and control potential harmful factors, including physical, chemical and biological factors.
T0643 Social Service Learning-Caring and Sharing (2/0)(0/2) The purpose of this course is to help students make the quality of their life better, including their abilities, believes, and social skills. Many activities in the course help students reflect and build up their own personality and social skills.

T0645 Forest Ecology and Tree Protection (2/0)(0/2) Trees, like human beings, are exposed to risks of fatal illness in their life. These threatening factors may weaken trees’ growth, deteriorate quality of scenic spots, jeopardize the life of trees, or even worse, cause forest growth decline and extinct. On the other hand, trees are closely related to our lives. In the ancient agricultural society, the main supply of construction material and fuel was from trees and forests. In modern society, trees in developmental areas, particularly the old ones, provide us seasonal spectacular scenes and various habitats for birds and insects; promote amenity and quality of life and even bring inspiration and spiritual comfort to citizens. Therefore, knowledge and implementation of forest ecology and tree protection is relatively important to our daily lives.

This course will provide students with knowledge and practices of trees planting and protection, and students will better understand how to take care of trees and reinforce identity with school by adopting trees. Course contents will cover related theories in forest ecology, tree diseases, mycology and entomology. Through knowledge and practices provided in this course, we hope students will better appreciate old trees on campus.

T0646 Construction of an Ecologically Diversified Community (2/0)(0/2) The course aims to give a general account of the natural features as well as its rich ecological resources in Taiwan, and to explore factors attributed to the success or failure of the self-improvement programs in different communities so as to provide students with a basic knowledge related to the construction of an ecologically diversified community.

T0800 Community Service-learning (2/0)(0/2) Service-learning provides students with to reflect on how they apply what they have learned to real practice. Critical to this type of learning is to reflect theoretical knowledge on service experience. Reflection time helps students make connections between classroom study and community learning, and ensures that they understand the extent to which they can make a difference. Students improve their academic skills by applying what they have learned in school to the real world; they then can bridge the gap between their service and their learning.

T0917 Local Culture and Creative industries (2/0)(0/2) This course aims to introduce to students 1. The concept of community building and development. 2. The formation of local cultural resources and their development. 3. Local cultural conditions and trends in the creative industries. 4. Analysis and comparison of culture and creative industries in the period under Japanese government. 5. Issues relevant to local culture and creative industries.

T0991 Three Scientific Revolutions and the Spatial and Temporal Universe (1/0)(0/1) This course presents an introduction to the history and future prospective of the computer revolution, quantum revolution, biochemistry revolution and spatial and temporal universe.

T1234 Minority Groups and Social Welfare (2/0)(0/2) The main objective of this course is to discuss the issue of minority groups and the limitations of social welfare politics in Taiwan.
COLLEGE OF LIBERAL ARTS

Dean: Chiu, Jeong-yeou (邱炯友)

Brief History
The College of Liberal Arts is the oldest academic division of Tamkang University. Founded in 1958 and expanded from the Department of Chinese, which was established in 1950, the College is currently composed of five departments: the Departments of Chinese; History; Information and Library Science; Mass Communication; and Information and Communication. These departments can be divided into two academic traditions: the Humanities and Social Sciences, which also constitute an academic environment blending Western scientific knowledge and Eastern philosophy.

Motto and Goals
We encourage research and innovation and put an emphasis on collaboration and interactions among our five departments. These departments make up the dual core that combines the two academic traditions of the Humanities and Social Sciences for the Chinese Language-Based cultural creative industry, i.e. accumulation, application and reproduction of Chinese culture. This feature is concretely reflected in two specialities: the Center for China Studies, and the Interdisciplinary Program of Cultural and Creative Industries.

Based on the Triple Objectives of Tamkang University (Globalization, Information-oriented Education, and Future-oriented Education), this course will focus on two main areas of study: “international China studies, creative China studies, digitization of China studies” and “cultural creative industry.”

Future Development
"Developing a global view while staying locally, connecting to the world, and being creative and innovative" are the major principles that the College wants to follow.

In instructional design, we encourage students not only fully develop their in-depth understanding of their subject areas, but also apply what they have learned to real social contexts. The Interdisciplinary Program of Cultural and Creative Industries offered by the College has provided our students with a wider scope of knowledge and core capabilities, so as to prepare students for taking part in the cultural and creative industry in the future.

Moreover, Given the image Tamkang has created as a "mountain city, romantic river city, and harbor city," we are trying hard to develop to become an educational center in the northern Taiwan.”

Course Descriptions

A1593 Sinology Culture and Originality (0/2) The traditional Sinology studies focus on Chinese culture in diverse fields. This course differs from the traditional ones in that it will demonstrate the marvellous originality and diversity of Chinese culture.

A1907 Introduction to Cultural and Creative Industries (2/2) This course applies literacy approach to the Creative and Cultural Industries and explores their impact on product shifting and value-addedness.

A2353 Creative Digital Genes (2/0) This course aims to explore diverse creative ways of thinking, elements of creativity and digital thinking by analyzing creative artworks to inspire students to probe their own creative digital genes.

A2416 Storytelling and Creativity (2/0) This course introduces different kinds of material relevant to storytelling through appreciation and analysis, group discussion and interactive teaching activities to develop students’ potential for storytelling and to broaden their ways of thinking.

A2450 The Culture of Jade and Life Value (2/0) This course emphasizes the study of raw jade. In this course, students will not only learn to appreciate ancient jades, but also learn the sophisticated nature of jade culture. Finally, we will incorporate humanistic concerns into our real life.

A2530 Digital Arts and Interface Design (0/2) This course covers the history, tendency, and
technology development of digital arts. We will address the growth and relevance of performing arts, film, installation, video, and digital media in the gallery world, and the various dialogues with popular and scientific culture in which all these new media have been involved.

A2557 The Culture Brand Management and Global Marketing (0/2) This course focuses on two domains: “the development of a cultural product or service into a world-class brand” and “the management of global marketing” through introduction to relevant fundamental theories and case studies.

A2558 The Graphic Arts and Cartoon Industry (0/2) This course aims to provide students with basic knowledge of graphic arts and cartoon industry by closely examining Chinese graphics that appear in pictures and their historical value in folk culture. This course focuses on the cultural messages that the arts imply, for example, the industry of the caricature, etc. By participating in classes, seminars directed by cartoonists and after-class activities, students will be able to discover the cultural messages revealed in the artistic picture database.

A2559 Story-telling Project (0/2) This course is designed to provide students with guidelines to explore their imaginative potential to create a story, to build up the structure of a drama, to create potentially interesting subjects for a story, and to develop a story outline.

A2560 Knowledge Management and Technology Application (0/2) This course aims to familiarize students with the cultural and creative industries in the business arena by serving their internship and exploring the potential applications of knowledge management and creative information technology in the cultural and creative industries.

A2569 Seminar on Global Cultural and Creative Industry (0/2) This course is designed to invite guest speakers from different areas of the cultural and creative industries to talk on special topics, along with the instructor's lectures and extended discussions on certain given issues.

A2585 Visual Narrative Project (2/0) This course focuses on the use of computer-based tools to tell stories. Most digital stories focus on a specific topic and makes a particular point. The digital stories contain some mixture of computer-based images, text, recording, audio narration, video clips, music and sound effects. The topics that appear in digital storytelling range from personal experiences to the recounting of historical events, from exploring life in one's own community to the search of life in other corners of the universe, and literally, everything in between.

A2586 Internship on Global Cultural and Creative Industries (2/0) This course offers internships for students to explore the potential business models, difficulties and opportunities of the cultural and creative industries in Taiwan and in the global market.

A2587 Culture of Knight-errant and Creative Industry (0/2) This course covers three parts:

a. Introduction to knight-errant culture and creative industry.
   Through lectures and digital teaching methods, the course helps students understand the development and theories of knight-errant culture, knight errant history, and the development of knight-errant culture in the creative industry in Taiwan.

b. Analysis of creative industry
   Students will be assigned a group project, targeting at desktop publishing, digital games, or showbiz media. Students need to conduct research on the market of creative industry and present individual research findings in the class.

c. Evaluation and reflections on knight-errant culture and creative industry
   Through group discussion and personal reflections, students are expected to have an insight into knight-errant culture and creative industry.

A2588 Digital Archives of the Arts and Literature (0/2) This course aims to develop students' ability to produce and to appreciate the digital archives of the arts and literature. We will introduce the processes and techniques needed to digitize arts and literary works and will discuss the application of these digital contents. This course will use case studies in real classroom practice.

A2589 Knowledge Management Strategy and Innovation (2/0) This course offers an introduction to knowledge management strategy, technology innovation service and will familiarize students with the
meaning of KM and how to use KM for technology innovation service in an organization.

**A2590 Special Project on Cultural and Creative Industries (2/0)** This course aims at helping students formulate projects on cultural and creative industries. Students will make use of their knowledge of innovation and entrepreneurship to develop a proposal.

**A2591 Project on Global Marketing in the Culture and Creative Industries (2/0)** Focusing on analysis of market trends and production and sales strategies, this course will guide students to explore factors critical to bringing new and paradigm shifting products to market.

**A3381 Connoisseurship of Cultural Relics (2/0)** This course aims at studying existing cultural relics and their production, evolution, verification and artistic value.
DEPARTMENT OF CHINESE LITERATURE

Degrees Offered: B.A., M.A., Ph.D.

Chair: Chang, Shung-in (張雙英)

The Department

The Department of Chinese Literature seeks to create a Chinese culture for this generation by combining classicism and modernism. It adheres to the ideals of the nurturing spirit of the humanities and promotes cultural quality through an in-depth search of traditional Chinese learning, as well as through constant inquiring into the relationship between traditional Chinese learning and contemporary culture by multifarious academic exchange activities.

The Department also offers an evening bachelor's program for those who are unable to pursue their studies during the daytime.

The Graduate Institute of Chinese Literature, founded in 1988 (M.A.) and 1999 (Ph.D.), has the major objective of integrating Chinese literature and aesthetics, traditional society and culture. The M.A. and Ph.D. degrees require two or more years of intensive study and research in the field of Chinese literature, arts, philosophy and culture.

Faculty

Professors
Chao, Wei-min (趙衛民); Chen, Ching-huang (陳慶煌); Chen, Wen-hua (陳文華); Chou, Yen-wen (周彥文); Ho, Chim-lan (何金蘭); Huang, Fu-shan (黃復山); Kao, Po-yuan (高柏園); Lu, Cheng-hui (呂正惠); Tseng, Chao-hsu (曾昭旭); Yuan, Pao-hsin (袁保新); Tsui, Cheng-tsong (崔成宗)

Associate Professors
Chen, Shi-hwa (陳仕華); Ku, Tai-kuang (古苔光); Ma, Ming-hau (馬銘浩); Ni, Tai-ying (倪台瑛); Wang, Lih-hwa (王麗華); Yin, Shan-pei (殷善培); Shu, Wei-ping (許維萍)

Assistant Professors
Chen, Ta-tao (陳大道); Chou, Der-liang (周德良); Kao, Wan-yu (高婉瑜); Huang, Lee-ching (黃麗卿); Tseng, Yu-fu (曾昱夫); Hou Ru-chi (侯如綺)

Degree Requirements

1. Requirements for a B.A. in Chinese:
   Completion of 139 credits of courses, including 95 credits of required courses, 20 credits of elective Chinese literature courses, and 24 credits of elective courses.

2. Requirements for a Master's degree in Chinese:
   Master’s students of the Department of Chinese Literature must complete their degree program within 2-4 years. During that period, they must obtain a minimum of 32 credits excluding thesis. Master’s students are not allowed to take more than 15 credits courses each semester, but they need to be enrolled in at least one course each semester. Academic Research Method is a required course. (This requirement also applies to students who entered this program after the 2006-2007 academic year).

3. Requirements for a degree in Ph.D. in Chinese:
   Ph.D. students must complete their degree within 2-7 years. During that period, they must take at least 18 credits courses (excluding dissertation). They are not allowed to take more than 15 credits each semester, but they need to be enrolled in at least one course each semester. The Topic of Chinese Academic History is a required course. (This requirement also applies to students who entered this program after the 2006-2007 academic year).
Course Descriptions

Undergraduate Courses

A0104 History of Chinese Literature I (2/2) This course is designed to arouse students’ interest in Chinese literary works by exploring the history, characteristics, and styles of Chinese literature.

A0105 History of Chinese Literature II (2/2) This course is an introduction to the interaction between literary development and socio-political factors in different periods of the history and a study of the formation of styles and characteristics.

A0113 Shih Chi (2/2) This course explores Shih Chi and its influence on literature through a study of the historical value of the author's writing techniques.

A0150 Chinese Paleography (2/2) This course focuses on the study of the structure of Chinese characters.

A0168 Introduction to Literature (2/2) This course introduces some basic concepts of both literature and Chinese and Western literary theories and criticism to develop students' competence in appreciating and critiquing literary works.

A0173 Studies in Text (2/2) This course aims to help students understand the definition of literature.

A0284 Taiwanese Literature (2/0) This course will guide students to understand and explore the development of Taiwanese literature and its some important issues, and some texts will be assigned to read and to analyze. In the class, we will link these texts to the history of Taiwan literature in order to associate Taiwanese literary works with historical development of Taiwan literature.

A0306 Lao Tze (2/0) In this course, students will study the two volumes of Lao Tze, explanation of Tao and Te, and interpretation of Lao Tze's doctrine.

A0379 The Poetry of Li Pai and Tu Fu (3/0) This course aims to study and explore Li Pai and Tu Fu’s poems.

A0381 The Poetry of Tu Fu (0/3) This course aims to study and explore Tu Fu's poems.

A0384 Children's Literature (0/3) This course offers an introduction to authors and works of contemporary children’s literature.

A0468 A Study of Liou’s (2/2) This course focuses on the works of Liu Yong and Zhou Bangyan.

A0563 Chinese Semantics (2/2) This course offers an introduction to the exegetical methods, regulations, semantic analysis, annotation style classics etc.

A0589 Introduction to Chinese (2/2) This course offers an introduction to Chinese culture and literature.

A0650 Chuang Tze (2/2) This course focuses on the study of Chuang-tzu's philosophy with additional writing practices.

A0697 Ch’u-Tz’u (2/2) This course deals with poems written by Ch'u Yuan, including "（離騷）--Meeting with Misfortune", "（九歌）--Nine Songs", "（九章）--Nine Chapters", "（天問）--Asking Heaven", "（遠遊）--Travelling Afar", "（卜居）--Practicing Divination", "（釣父）--Fisherman", "（招魂）--Conjuring the Dead" and so on.

A0715 Readings in Chinese Poetry (2/2) Through analysis of Chinese ancient poetry and classical
poetry, students will be able to grasp the spirit of classical poetry and cultural landscape and thus will be familiarized with Chinese classical poetry.

**A0757 General Linguistics (2/0)** The course aims to familiarize students with basic theories of linguistics.

**A0828 Selected Readings in Chinese Literature (I) (2/2)** Based on the dignified characteristics of self-description of “Le zui” and the hardship of trained procedures, it broke up the superstition of fortune-telling and the fear of death, and thus developed the philosophy of life and death.

**A0829 Selected Readings in Chinese Literature (II) (2/2)** The course offers an introduction to Pian Wen in the Six Dynasties and an in-depth analysis of Chao Ming's Literary Anthology and its influence on the history of literature.

**A0852 Chinese Phonology (2/2)** Through the phonology of the media, students will be able to recognize and understand the language of the phonological structure, phonology books, audio systems, to understand the link between dialects within the use of Phonology, and to appreciate the beauty of Chinese literature.

**A0872 The Poetry of Su-shi (2/0)** This course focuses on the special poetical characteristics of the poets in the Song Dynasty Su-shi and Huang Ting-jian.

**A0991 History of Chinese Philosophy I (2/2)** This course surveys the origin and development of Chinese philosophy, tracing the spirit and value of Chinese culture.

**A0992 History of Chinese Philosophy II (2/2)** This course surveys the origin and development of Chinese philosophy, tracing the spirit and value of Chinese culture. A continuation of History of Chinese Philosophy I.

**A1224 Selected Readings in Modern Literature (0/2)** The program aims to guide students to understand the fiction-creating theory and narrative systems, to open up and develop their writing potential by extensively read and analyze the author's theories and writing types in the modern Chinese fiction. This program also provides students to examine and deliberate among various formal value and meaning, yet, through a sustained process of practice to become cultural and trained professional readers in the literary department.

**A1227 Chinese Editing and Interviewing (2/2)** Training of critical thinking and news writing is practiced in this course, so as to cultivate the principal concepts about interviewing and news editing.

**A1376 Expression in Spoken and Written Chinese (2/0)** This course is designed to enhance students' ability of speaking and writing Chinese by analyses of theories, case study, exercises, and discussion.

**A1585 Selected Reading of Shi Shu (2/2)** Students will learn the basic Confucian moral principles.

**A2021 Modern Poems and Creation (2/2)** This course focuses on interpretation and comprehension of modern poems, and poetry writing.

**A2022 Grammar and Rhetoric (2/2)** This course focuses on analyses of semantics, syntax, and common idioms.

**A2142 Literature and Art Editing (2/0)** This course aims to prepare students for their future career in the editing job market.

**A2284 Liao-Zhai-Zhi-Yi (2/2)** The course focus on the different characters and themes of this famous
A2333 A Subject's Program and Interview (0/2) This course aims to prepare students for their future career in the editing job market.

A2380 History of Chinese Contemporary Literature (3/0) This course covers the history of modern literature, major literary movements, literary debates, literary and artistic trend. And the emergence of the literary societies of the stage and the different types of genre writer of literary creation will also be included.

A2457 Modern Literary History of Taiwan (2/2) The course provides students with access to the historical and literary scenes.

A2458 Selected Readings in English Sinological Writings (2/0) This course introduces to students some Chinese writings translated into English. They are, chronologically, The Analects of Confucius, Tang poetry, Tang and the Ming Chinese short stories, as well as articles concerning modern literature in the May-fourth period.

A2476 Selected Readings in Chinese Short Stories in English Translation (0/2) This course introduces Chinese short stories translated into English. Chronologically well-known Tang classic Chinese short stories, Ming short stories as well as modern short stories, are selected.

A2516 Introduction to Mandarin Chinese (0/2) This course is an introduction to some important theories and techniques in teaching Chinese as a second language. Students will learn (1) what current theories in second language acquisition are, (2) what classroom teaching techniques are, (3) how to develop a pedagogical grammar based on theoretical linguistics, and finally (4) how to examine/evaluate instructional materials.

A2517 Modern Chinese Literature and Thought (2/2) This course explores the contents, features and trends of art and literature and explains the relationship between literature and human lives.

A2518 Introduction to Chinese Drama (2/0) Poems and Poetry by the elected participants say, prove, so that scholars understand the history of poetic theory of evolution, the establishment of Gen Shendi Solid foundation of scholarship.

A2535 Reading and Writing in Chinese Poetry (2/2) This course will focus on music literature, a state of mind literature, research Ci characters, scenes, and emotional types of Change, and the mood of the general characteristics.

A2625 Poetry, Calligraphy, Painting and Cultural Creative Industry (0/2) This course is a traditional painting Ruin of the cultural connotation of poetry as the spindle, through courses for the students to understand poetry painting relevant content into the present life, how to become the art of living of the times, and open up a new fashion culture. This course focuses on the creative content combined with industry, traditional culture and the arts to join creativity, allowing for the development of society become the industry's benefit.

A2626 Introduction to Creative Sinology Industry (0/2) This course introduces students to poetry and painting as relevant to current life, their potential to become the art of living of the times, and open up a new fashion culture. This course focuses on linking creative products of traditional culture and arts with industry, allowing for the development of the society.

A3390 Basic Calligraphy (1/1) This course will focus on calligraphy teaching and writing exercises. In this semester students will review and strengthen official script of the Han Bei and the Han Dynasty, practice line, cursive, and relevant information. Research and development of e-pen calligraphy was able to present a clear method of writing, the teaching of Zeyi informative briefing the picture.

A3391 Advanced Calligraphy (2/0) This course takes calligraphy fundamentals as a cornerstone and explores further various types of calligraphy. And this course uses textbooks dealing with traditional calligraphy theory to enable students to associate theory with practice in their creation of contemporary calligraphy.
Master's Program

A0444 Research Methods (2/2) This course offers a study of the significance and influence of language analysis in contemporary philosophy; a guide to academic research by cultivating clear concepts and logical argument.

A1256 Investigation and Verification of Ancient Books (0/2) This course explores the development of the production history of ancient books and introduces the ancient Shang Jian and price assessment methodology. And the course also investigates the hidden world in the ancient time as a academic research topic.

A1472 Selected Topics in the History of Chinese Philosophy (3/0) This course surveys the development and origin of Chinese philosophy, and traces the spirit and value of Chinese culture.

A1486 Study of Classical Novels (2/2) This course discusses and clarifies the fields neglected and misunderstood by novel critics so as to promote the academic study of classical novels.

A1705 Selected Topics in Taoism (2/2) This course deals with the philosophy of Lao-ze and Zhuang-ze.

A1738 Chinese Mythology (2/2) This course offers a systematic study of the rise of myths, the boundary between myths and non-myths, and the significance of myths.

A1962 Chen-Wei Study of Astrology (2/2) Texts related to the topics will be selected to help students understand their role in the modern society and their influence on the society might be.

A1992 Selected Topics on the Confucian Canon (2/2) This course focuses on investigating the studies of the historical evolution of the Confucian doctrine.

A1994 Chinese Bibliography on the Internet (2/0) This course teaches students how to search academic data on the Internet.

A2073 Aesthetic Theory in China and the West (2/2) This course provides an overview of macro-study and micro aesthetics.

A2145 Selected Topic on The Cultural or Historical Relics study (0/2) The course aims to explore cultural achievements on the ancient jade, bronze ware, ceramics, paintings, books, prints and other types arts. Besides, this course will also introduce the right way to appreciate an art work.

A2221 International Sinology Resources (0/2) This course will guide students to explore the evolution of books and library information, library information system changes, and access methods.

A2272 Selected Topics on Literature of the Tang Dynasty (0/3) This course explores the literature of the Tang Dynasty.

A2389 Selected Topics on the Thoughts of Lao-Tzu and Zhuang-Tzu (3/3) This course aims to build up Zhuang-Tzi theoretical system, including views on the world and life, values, and thus to expand to a political perspective.

A2444 Special Topics in Cultural Studies (3/0) This course focuses on topics related to Chinese culture.

A2473 Editorial Practice of Specific Documentation (2/0) The course focuses on editing of specific documentation.

A2479 Theoretic of Words and Cultures (0/3) This course covers language study, study of phonetics and semantics, Chinese sociology, cultural studies, Chinese characters, Chinese characters application, character study of ancient writing, Shuo Wen Jie Zi studies, language and socio-cultural research.
A2484 **Selected Topics on the Chinese Calligraphy (2/0)** This course integrates calligraphy with literature as the focus of the study.

A2495 **Specific Topic on Documentation (2/2)** This course will focus on the external and internal structure of theory, and will apply theories to practical use.

A2633 **Topics on the Culture of Publication (2/0)** In the course we will discuss the phenomena of the ancient publishing enterprise, including management of quality, marketing method, propaganda and advertisement, copyright protection, and market survey. The course is a pioneer in the study of documentation.

A2635 **Topics on Li Shang-yin's Poems (2/2)** This course aims to study the works of the Tang Dynasty poet Li Shang-yin.

A2636 **Topics on Modern Female Literature (2/2)** This course aims to investigate, observe, analyze modern Taiwanese female literature.

A2637 **Literary Theory and Practice (2/2)** This course aims to apply different theories to the practical interaction between literature and society.

A2638 **Classical Hermeneutics (2/2)** In this course, students will learn from the ontological context to the application of concepts, and to put theory into practice.

A2655 **Topics on History of Chinese Philology and Linguistics (2/0)** This course explores the grammar and lexicon of ancient Chinese and puts forth an explanation of the evolution of the language.

A3533 **Special Topic on Culture and Society (2/2)** The objectives of this course include: 1, to develop students’ basic concept of culture and society; 2, to equip students with comprehensive understanding of "cultural studies," "and" Sociology "; 3, to familiarize students with research methods on cultural studies and sociology; 4, to provide students with relevant background knowledge, such as Kai-Shu Chinese Confucianism, Taoism and the cultural and social thought and Western sociology, literature and art sociology.

A3541 **Selected Topics on Chinese Four Major Categories Science (2/2)** The course introduces to students the editing, preserving, diffusing, and re-editing of Si Ku Quan Shu. Besides, all of its cultural characteristics, the contribution and errors will be also discussed.

A3548 **Selected Topics on the History of Chinese Arts (0/2) Image arts and literature symposium**

T8000 **Thesis (0)**

**Ph.D. Program**

A1738 **Topics on Modern Chinese Fiction (2/2)** This course explores classical and modern popular Chinese fiction.

A2390 **Selected Topic on New-Confucianism Study (2/2)** This course will investigate Confucianism from a new perspective.

A2391 **Selected Topics on History of Chinese Literature (2/2)** The course will explore the history of Chinese literature and related theories.

A2397 **Studies of the Thoughts and Reasoning of Shiun-Tzu and Han-Fei-Tzu (2/2)** The course aims to explore the philosophy of Shiun-Tzu and Han-Fei-Tzu and their views on life, values, and thus to expand to the political and ideological domains.

A2413 **Selected Topic on Chinese Learning (2/2)** This course focuses on the development of traditional Chinese academic trend, ranging from public opinion, rhetoric, textual interpretation of the three aspects, management Solution carried out by different generations of academic common cultural soul of China to the academic theory of constructivism.
A2443 Selected Topic on Theory of Literature (2/2) This course will familiarize students with the contents, function and trends of various literary theories.

A2630 Topics on Modern Chinese Fiction (2/2) The course will focus on modern "Popular Stories" as the main topics of research.

A2631 Topics on China Study - Focus on Sinology (2/2) This course will guide students to understand different countries by doing research on China, such as an overview of the characteristics of Chinese Studies from the East and West perspectives, studies on a famous thinker or a researcher or study with the famous Han Make; in addition to the history of Chinese studies, we will also search for the latest information, and will use the Chinese version of famous books to study, analyze, and discuss.

A2632 Modern Interpretation of Chinese Philosophy (2/2) This course makes use of historical contexts to guide students to understand “application” concept, elaborate the understanding of limited existence of human being, and prove that the function of “application” concept is indeed revealed in the concept of effective-history.

T8000 Dissertation (0)
DEPARTMENT OF HISTORY

Degrees Offered: B.A., M.A.

Chair: Lin, Chen-jung (林呈蓉)

The Department

The Department of History was founded in 1966 for the purpose of training historians in cultivating the wide realm of historiography. At present, the Department has five professors, six associate professors, one assistant professor and one lecturer. A special feature of this department is a chair for the expertise in historical studies, carrying out the prospect of both classroom education and fieldwork. In addition to inviting specialists and scholars to give lectures, students and professors also make field trips to the famous local sites for on-the-spot investigations. Established in 1998, the master’s program aims to train students’ ability in conducting historical research, especially on the relationships between China and foreign countries and the history of Taiwan, a field that has witnessed a fast progress.

Faculty

Professors
Huang, Farn-guang (黃繁光); Huang, Jiann-chen (黃建淳); Lo, Yun-chi (羅運治); Chou, Tsung-hsien (周宗賢); Lin, Chen-jung (林呈蓉)

Associate Professors
Ho, Yung-cheng (何永成); Liou, Tzeng-chyuan (劉增泉); Wang, Yueh (王欽); Yang, Yu-mei (楊育鎂); Lin, Huang-ta (林煌達); Wu, Ming-yung (吳明勇); Tang Yao-tsung (唐耀棕)

Assistant Professor
Kao, Shang-wen (高上雯)

Lecturer
Yu, Chao-ho (尤昭和)

Degree Requirements

1. Requirements for a Bachelor’s degree in History:
   Completion of 135 credits of courses, including 87 credits of required courses and 48 credits of elective history courses.

Required courses:
A. First year:

B. Second year:
   Chinese Historiography, History of Japan, Medieval European History, Western Historiography, History of The Chin And Han Dynasties, History of Taiwan, Twentieth Century World History, Modern Japanese History, The Development of Science And Technology In Taiwan, Social And Economical History of Liao, West Xia and Jin Dynasties.

C. Third year:
D. Fourth year:
  Writings of Genealogical Records, History of Modern China, History of Chinese Art, History of the Ming Dynasty, History of Southeastern Asia, Digital History Data, History of Contemporary China.

2. Requirements for a Master’s degree:
  Completion of 32 credits, including 28 credits of required courses and 4 credits of seminar. Students are also required to submit a master's thesis completed under the supervision of a faculty member, and pass an oral examination.

Required courses:
  Historical Research: Theory and Practice, Study on Chinese Jade History, Analysis on Historical Taiwanese Materials, Study on Chinese Modern Thoughts, Topics on Taiwan Developmental History.

Course Descriptions

Undergraduate Courses

General Courses

A0281 Historical Methodology (2/2) This course is designed especially for advanced scholarship in history. Stress is placed on practical exercises; the purposes, materials and techniques of historical scholarship; and theory, practice and criticism of historical research methods.

A0282 Introduction to Historiography (2/2) This course offers an introduction to the great historians of the world. Classroom activities include studying and seminar discussion of selected historical documents dealing with major events and trends in historiography.

A0969 Introduction to Taiwan History (0/2) This course discusses major forces and trends in the history of Taiwan, from the 16th to 20th century. It covers important political, economical and cultural events.

A1139 History of Taiwan (2/2) Fieldwork and seminar of Taiwan history studies are central to this course. This is an advanced course to follow up on "Introduction To Taiwan History" and will discuss related topics with depth.

A1212 World History (4/4) This course surveys Western civilization from antiquity to the modern Period.

A2176 Digital History Data (2/0) This course discusses historical data by means of the latest technological equipment to make history studies a new trend at this new age.

A3481 Chinese Geography (2/2) The basic courses are geomorphology, climatology, hydrology and biogeography; geography of oceans and rivers, special and applied geography and regional topography of Taiwan, China, and the world.

E0155 Introduction to Geography (2/2) The main purpose of this course is to make students understand the geography of China and the differences of local and present conditions and characters of different regions. In addition, the course includes introduction to Chinese rivers, mountains and population.

T0031 General History of China (4/4) This course offers a survey of Chinese civilization beginning from antiquity to the modern Period.

History of China

A0121 History of Modern China (2/2) This course offers an overview of political, economic, social and intellectual history of China from 1800 to 1911. Processes of modernization and revolution and relationship between them will also be discussed.
A0296 Pre-Ch'in History (2/2) In this course, we will investigate the development of China from earliest times to 221 B.C. and how China built up such a glorious kingdom.

A0371 History of the Sung Dynasty (2/2) This course offers an overview of political and cultural history of China from 960 A.D. to 1279 A.D.

A0387 History of the Ching Dynasty (3/3) This course discusses major forces and trends in the history of the Ching Dynasty.

A0395 History of the Ming Dynasty (2/2) The development of Chinese political, cultural, social and urban history in the Ming Dynasty is discussed in this course.

A0560 History of the Ch'in and Han Dynasties (2/2) This course focuses on the development of the Ch'in and Han Dynasties from 221 B.C. to 220 A.D.

A0676 History of the Sui, Tang, and Five Dynasties (2/2) This course discusses major forces and trends in the history of China from 420 A.D. to 960 A.D.

A0831 History of Liao, Chin & Yuan Dynasties (2/2) This course gives an overview of political, economic, social, and cultural history of China from 916 A.D. to 1368 A.D.

A0865 History of the Six Dynasties (2/2) This course gives an overview of the political, economic, social and intellectual history of China from 220 A.D. to 420 A.D.

A2227 Social and Economical History of Lias, West Xia and Jin Dynasty (2/2) This course focuses on the social and economical histories of Liao, West Xia and the Jin Dynasty.

A2303 History of the Renaissance (2/2) In this course, students will study the origin and development as well as the famous writers and painters in the Renaissance age.

T0030 History of Contemporary China (2/2) This course gives an overview of the political, economic, social and intellectual history of China from 1911 to the present.

History of the Western World

A0313 The Ancient Western World (2/2) This course focuses on history from the origins of Western civilization to the fall of Rome.

A0314 Medieval European History (2/2) This course gives an overview of the political, economic, social and intellectual history of the Middle Ages.

A0325 Modern European History (2/2) This course gives an overview of political, economic, social and intellectual history from the Peace of Westphalia to the fall of Napoleon.

A0326 Early Modern European History (2/2) This course deals with the political, cultural, economical, and social developments in the Western world from the 16th through the 18th centuries. It tells how the modern age is shaped.

A1213 Twentieth Century World History (2/2) This course gives an overview of political, economic, social and intellectual history from the fall of Napoleon to the present.

A2502 History of Modern European Culture (2/2) This course offers an overview of the economic, social and culture history of modern Europe.

Special Topics on History

A0078 History of Sino-Japanese Relations (2/2) This course offers a survey of political, cultural, and commercial exchanges between China and Japan, and modern Japanese militarists' invasion of China.

A0088 History of Chinese Foreign Relations (2/2) This course offers an introduction to China's
communications and diplomatic negotiations with Western countries from pre-Chin to the Ching Dynasty.

**A0095 History of Sino-American Relations (2/2)** This course offers a survey of political, cultural, diplomatic policy, and commercial exchanges between China and the United States, and American aids after World War II.

**A0100 Culture and Life Style in Chinese History (2/2)** This course introduces the origins and development of Chinese culture and the life styles of Chinese people; it also analyzes the characteristics of Chinese culture.

**A0122 Diplomatic History of Modern China (2/2)** The purpose of this course is to narrate and analyze China's resistance and adjustment to international politics in modern times. It gives students a clear picture of China's proper place in the family of nations.

**A0123 Intellectual History of Modern China (2/2)** This course offers a close analysis of people, ideas, and intellectual development of China from 1844 A.D. to 1911 A.D.

**A0125 History of Chinese Philosophy (2/2)** This course focuses on a close analysis of people, ideas, and common thoughts of China from antiquity to the present.

**A0132 History of Chinese Art (2/2)** In this course, students will be engaged in historical analyses of selected works of painting, sculpture, temple, majestic palace from antiquity to the present.

**A0139 History of Sino-Korean Relations (2/2)** This course offers a survey of political, cultural and economic trades between China and Korea.

**A0287 Seminar on Taiwan History (2/2)** Selected topics (political, economic, social and intellectual history of Taiwan from the 16th to the 21st century) will be discussed in this course.

**A0335 History of Western Fine Arts (2/2)** This course offers a historical survey of selected works of painting, sculpture, and architecture from antiquity to the present, and an introduction to the major artistic movements in Western art.

**A1238 History of European Economic Thought (2/2)** This course offers a survey of the economic and social development of Europe up to the eve of industrialization, including the transformation of peasant-based, agrarian economies, capitalist organization, colonial expansion, and international trade.

**A1240 History of Modern Japan (2/2)** This course offers a general survey of the people, ideas and intellectual forces of 20th-century Japan.

**A1266 Historical Geography (2/2)** This course focuses on where historic events occurred and how a place played a geographically important role in history.

**A1267 History of Early Modern Taiwan (2/2)** This course gives an overview of political, economic, social and intellectual history of Taiwan from 1895 to 1945.

**A1268 Social and Cultural History of Japan (2/2)** This course offers a survey of social and cultural history of Japan from the earliest times to the present.

**A1379 History of Japanese Diplomacy (2/2)** In this course, students will study the history of diplomacy of Japan, and discuss its importance in Japan as well as in the world, especially in Eastern Asia.

**A1435 History of Chinese Society (2/2)** This course focuses on how Chinese society was formed and shaped.

**A1436 Intellectual History of Modern Europe (2/2)** This course focuses on a close analysis of the people, ideas and intellectual developments of Europe from 1648 A.D. to the present.
A1437 History of Chinese Political Systems (2/2) This course offers a close analysis of China's bureaucracy transformation and how the government system works.

A1496 Women in Chinese History (2/2) This course studies the status of Chinese women in history and the oppression of patriarchy inflicted upon them.

A1818 European Civilization (2/2) This course aims to trace the origin and development of European civilization and tries to find out its influences on the world.

A1821 The Development of Chinese Science and Technology in the Sung and Yuan Dynasties (2/2) This course aims to introduce and survey the development of science and technology in the Sung and Yuan Dynasties and analyze the underlying factors.

A1822 The Development of Science and Technology in Taiwan from the Fifteenth Century to the Twentieth Century (2/2) This course aims to introduce and research the development of science and technology in Taiwan from the fifteenth century to the 20th century.

A1843 History and Culture of Tibet (2/2) This course introduces the interplay of politics and religious belief in Tibet, offering a close analysis of the differences between Tibetan and Chinese culture, and how religion influences the Tibetan daily life.

A2020 Aesthetics: Sinological Arts (2/0) This course discusses the paintings, calligraphies and other related topics in ancient China.

A2193 History of Frontier Culture in China (2/2) This course introduces the formation of frontier culture in China and discusses how it was developed.

A2304 Social and Cultural History of Taiwan (2/0) This course introduces the change and development in contemporary Taiwan.

A2592 Cultural Tourism and Socioeconomic Development In Taiwan (2/0) This course introduces topics relevant to cultural tourism and socioeconomic development in Taiwan. We will let students understand the importance of cultural tourism and socioeconomic development in Taiwan.

M0031 Economic History of China (2/2) This course focuses on the origins of Chinese economy: historical analysis of economic change and growth from the earliest time. Emphasis is placed on the precondition and consequences of industrialization.

T0026 History and Development of Chinese Science and Technology (2/2) This course offers a survey of the development of science in China from its origins in the ancient world to the present.

T0727 History of Sino-Russian Relations (2/2) This course surveys the political, cultural and military relationships between China and Russia from the early Ching Dynasty to the present.

T1345 Overseas Chinese History in Southeast Asia (2/2) Close analysis on the differences between China and Southeast Asia is presented in this course.

Historiography

A0117 Chinese Historiography (2/2) Students will be engaged in readings of the great historians of China from the earliest times to the beginning of the 20th century. This course also investigates how perception of the past has altered our times.

A0118 Selected Texts from Chinese History (2/2) This course focuses on topics and texts of Chinese history with various approaches adopted by distinguished historians.

A0226 History of Japan (2/2) The past and present history of Japan, from the 7th to the 21st century, will be discussed in this course.

A0321 Western Historiography (2/2) Students will be engaged in readings of the great historians of
the Western world, from earliest time to the beginning of the 20th century. This course also investigates how perception of the past has altered our present times.

A0322 Selected Texts from Western History (2/2) This course focuses on writings and texts of Western history with various approaches adopted by different historians.

A0398 History of Southeastern Asia (2/2) This course focuses on the following topics: blending and modification of cultures, religions and people of island-and-mainland Southeast Asia, cultural contact and the growth of states and peoples.

A0425 History of France (2/2) This course focuses on major forces and trends in the history of France from Western Roman Empire to the 5th republic.

A0466 History of Russia (2/2) This course discusses origins and evolution of Russian people and the state; foreign relations as they affect domestic policy from 862 to 1964.

A0478 American History (2/2) This course focuses on the major forces and trends in the history of the U.S. from the earliest times to the present.

A0518 History of England (2/2) This course focuses on the major forces and trends in the history of England from the early medieval time to the present.

A0830 The Philosophy of History (2/2) This course serves as an introduction to some of the main issues and problems in Western philosophy of history (including analytical approaches and speculative approaches).

A1432 Selected Texts on Japanese History (2/2) Students will be introduced to writings and texts on Japanese history, with various approaches adopted by distinguished historians.

A1433 History of Germany (2/2) This course focuses on the major forces and trends in the history of Germany from the medieval time to the present.

A1955 An introduction to the Manchu Documents (2/0) This course is a survey of the Manchu documents in order to find the relations between China and Japan.

A2196 Digital History Data (2/0) This course deals with significant cultural and historical documentary relics, historical sources, photos, and video and audio records in digital form for preserving, management, and application.

Master's Program

A1466 The Renaissance Art History (2/0) The course introduces Renaissance art and its historical background.

A1469 Chinese Jade History (2/0) In this course, students will be educated and disciplined to learn to comprehend and appreciate the characteristics of the Chinese jade culture.

A1476 Modern Social History of Taiwan (2/0) In the late Ching Dynasty, Taiwan had undergone a drastic change. During the Japanese occupation, Taiwan faced a problematic situation. This course offers a case study of Taiwan’s identity politics.

A1863 Historical Research: Theory and Practice (2/2) This course teaches students how to combine theories and practices of Chinese history.

A1873 China and Frontier History (2/0) This course explores Chinese culture in five thousand years, and looks at frontier culture and intercultural exchange in China.

A1879 Reading Japanese Materials of the Taiwanese History (0/2) This course aims at analyzing the materials about the Taiwan issue in Japan and the different perspective presented in materials from China.
A1980 Special Topics in Modern Chinese History (0/2) This course gives an analysis on Chinese modern historical materials, emphasis, study methods and topics.

A2304 The Social and Culture History of Taiwan (0/2) The course discusses the society and culture of Taiwan.

A2414 Study on Historical Materials of the Wei, Jin, and Six Dynasties (2/0) The instructor will lead the students to study the materials of the Wei, Jin, and Six Dynasties in this course.

A2429 Study on Historical Subject of WEI, JIN, and Six Dynasties (0/2) This course discusses the issues pertaining to the Wei, Jin, and Six Dynasties.

A2445 Research Topics in Ming History (0/2) This course aims to help students explore the evolutionary trend of political institutions in the Ming Dynasty and the characteristics of socio-economic life at that time for a case study.

A2448 Research Information in Early Modern Chinese History (2/0) This course deals with research materials regarding politics, economics and culture in early modern China.

A2462 Research on Modern History of Taiwan (2/0) The course covers history of Taiwan from 1875 till today.

A2463 History of Buddhism in China (2/0) Buddhism is the most important religion in China. This course discusses the history of Buddhism in China and its meaning from thousands of years ago until now.

A2474 History of Urbanism in Ming-Qing (0/2) This course discusses urban development in the Ming and Qing Dynasties.

A2481 Jade Culture History in the Pre-Chin Dynasty (2/0) This course aims to familiarize students with old jade in the Pre-Chin Dynasty.

A2498 Research on the History of Early Modern Taiwan (0/2) This course helps students explore the evolution of politics, economics, and social culture in Taiwan’s modern history, especially the transition from the modernization of the late Ching Dynasty through the Japanese ruling period.

A2499 Applications in Resources of Local and Historical Relics (2/0) This course focuses on the topics of oral history, field investigation and law regarding cultural relics.

A2500 Editing in Cultural and Historical Data of Region (0/2) This course covers the topics of oral history, field investigation and local history.

A2628 Taiwan Forestry History (2/0) This course discusses the history of forestry in Taiwan. The course also analyzes the historical materials relevant to Taiwan Forestry History, the basic structure of Taiwan Forestry economy, culture, thoughts, and social transition to explain how a different culture in Taiwan Forestry was formed.

A3375 Analysis of Taiwanese historical materials (2/0) This course teaches students about historical materials, and how to use, read, and analyze the materials.

A3376 Historical Sites of Taiwan (0/2) This seminar focuses on historical materials and field trips to some famous sites in Taiwanese history. In addition, we will discuss cultural capitals in Taiwan and know how to use and protect them.

A3377 Special Topics in Early Modern Chinese Economic History (2/0) This course offers an analysis of Chinese economic development from the 10th to the 14th century.
A3379 History of Taiwanese Diplomacy Written in Japanese (0/2) This course focuses on the relationships between Taiwan and foreign countries from the maritime period to the start of the 21st century. It also discusses important military events and political affairs.

A3469 Special Topics in Taiwan's History (2/0) This course offers an analysis of Taiwan’s development from the 16th century to the Japanese occupation.

A3471 History of Chinese Eunuch (2/0) In this course, the objective is to understand the lives of famous eunuchs and their significance in the history of China.

A3473 Special Topics in the Social History of China (2/0) This course discusses social classes, changes of women's status, and religions.

A3475 Chinese Modern Thoughts (2/0) This course focuses on analyses of Chinese modern thoughts.

A3478 Selected Topics on Histories of the Sui and Tang Dynasties (0/2) The main purpose in this course is to make students discuss issues regarding the Sui and Tang Dynasties from 581 to 907.

A3536 History of Ancient Rome (2/0) This course offers an introduction to ancient Roman history, art and civilization.

T1345 Overseas Chinese History in Southeast Asia (0/2) This course introduces the developments and conditions of Chinese organizations and social phenomena in Southeast Asia.

T8000 Thesis (4/4)
DEPARTMENT OF INFORMATION AND LIBRARY SCIENCE

Degrees Offered: B.A., M.A.

Chair: Lin, Sinn-cheng (林信成)

The Department

The Department of Information and Library Science offers an undergraduate and a graduate program. The programs prepare students for careers in the government, business, schools, libraries, information centers, and research institutions through training in the techniques and applications of library and information science as well as multimedia technology. Tamkang University Library, with its extensive collections in many subject areas, offers support to the teaching and research projects in library and information science. In addition, the programs in communications and media technology actively provide students with the capability to deal with multimedia related to digital libraries. The areas of specialization are library automation, library collections, information organization, bibliographic references, management of information systems, information retrieval, automated reference services, information systems resource management, bibliometrics, digital image processing, multimedia production, electronic publishing and the book trade. A number of assistantships are available for part-time employment in the library, the Department, and other units on campus.

Faculty

Professors
Chiu, Jeong-yeou (邱炯友); Huang, Hong-chu (黃鴻珠)

Associate Professors
Chen, Ho-chin (陳和琴); Lin, Sinn-cheng (林信成);
Song, Sheue-fang (宋雪芳); Ouyang, Chung-jang (歐陽崇榮)

Assistant Professors
Lai, Ling-ling (賴玲玲); Lin, Su-kan (林素甘); Lin, Wen-Yau (林雯瑤); Chang, Hsuan-Pu (張玄菩)

Lecturer
Ma, Shao-chuan (馬少娟)

Degree Requirements

1. Requirements for a Bachelor degree of Arts:
   Completion of 139 credits of courses, including 90 credits of required courses and 49 credits of elective courses.

2. Requirements for a Master's degree of Arts:
   Completion of 26 credits of courses, including 4 credits of required courses and 22 credits of seminars. Students are also required to submit a written master's thesis completed under the supervision of a faculty member, and pass an oral examination.

Course Descriptions

Undergraduate Courses

A0055 College and University Libraries (2/0) Topics covered in this course are: organization, housing, and maintenance of material collections; library budgeting; duties and services of the library staff; and the relation of the library to the university or college.

A0067 School Libraries (0/2) Discussion of elementary and secondary school library problems, personnel requirements, budget planning, and design of facilities.
A0143 Public Library (2/0) This course focuses on the development of Chinese libraries and their
current functions as educational and cultural institutions. Consideration is also given to public libraries' technical and reader services as a profession.

A0561 Indexing and Abstracting (0/2) This course focuses on the following: Concepts of information and its bibliographic control, types of index and abstract, methods of indexing and abstracting relationship between information retrieval, evaluation for indexing and abstracting, indexing and abstracting services and automatic indexing and abstracting.

A0716 Information Centers and Services (2/0) This course focuses on the organization and functions of scientific and technical information centers and their services.

A0718 Information Storage and Retrieval (0/2) This course introduces to students the operations of information retrieval systems and the major factors affecting the performance of such systems.

A0742 Library Management (2/2) This course discusses the application of current management theories and practices to the integrated library programs at all levels.

A0980 Library Operation Evaluation (0/2) Topics of this course include: methods and criteria for evaluating various facets of library service, including the collection, the catalog, document delivery capability, reference services technical processes, and information retrieval operations; deals with cost-effectiveness considerations.

A1179 Literature of Humanities and Social Sciences (2/2) This course covers a variety of information resources in social sciences and humanities, and a study of library issues dealing with these subjects.

A1180 Literature of Sciences and Technologies (2/2) This course studies the major information sources and services in sciences and technology. It offers a survey of the research and communications methods characteristic of these majors.

A1216 Periodical Management (2/0) This course discusses basic step-by-step serials management, emphasizing the principles of collection development and public service, issues and practice.

A1722 Multi-media Technology and Application (3/0) This course offers an introduction to the theory of multimedia systems, technology, and their applications.

A1727 Library Internship I (1/1) This internship (a minimum of 6 hours per week) typically takes place in an elementary school library around communities. The focus of the internship is on collaboration with teachers and working with students to integrate information skills and technology skills into a standard-based curriculum and promote library literacy through School Library Programming.

A1728 Library Internship II (1/1) Students will do their internship in different types of libraries during the summer time. The primary emphasis of this program will be practical works of library operation.

A1729 Library Automation (2/2) This course focuses on the theory and practice of library automation operation and the integrated online library systems. The other automatic processing that affects services provided to users will be discussed in some detail. This class stresses the thinking and planning process, rather than programming and development of library systems.

A1730 Network Resources and Applications (0/2) This course provides current, up-to-date remote and local learning resources for students interested in finding information on the Internet, especially for the World Wide Web.

A1816 Children's Library (0/2) Students will learn the standards, trends, services, research, and evaluation of a children's library. An evaluation of library materials for children with a special emphasis on service for children in school and public libraries will be discussed. Techniques for assisting in planning and carrying out reading programs and story hours will be covered as well.
A1868 Publishing and Communication in the Book Trade (0/2) Publishing and book trade in the 21st century have become one of the main models of information communication. Either commercial or non-commercial publishing activities have made the knowledge communication more visible and efficient than ever before. Those factors involved in the publishing do not work in isolation, especially in the era of the Internet. Exploring contemporary attitudes and innovations, we see the connections between these factors which are made as often as possible. In order to provide students with a basic understanding of the development of publishing industry, our emphasis is on the publication as an integrated unit.

A1925 Chinese Bibliography (2/0) This course introduces the function and format of Chinese traditional bibliography and a comparison of different bibliographies.

A2000 Intellectual Property Rights (2/0) This course provides an introduction to the concepts of intellectual properties. An overview of copyright, patents, and trademarks is provided. The goal of this course is to provide an understanding in concepts that comprise intellectual property law, in order to enhance students’ expertise in a wide range of intellectual-property-related fields.

A2012 Research Methods and Writing (0/2) This course gives an introduction to the methods and procedures of research and the techniques of research writing.

A2190 Government Information and Publishing (0/2) Topics of this course include: the nature and use of public documents from the national and local governments, international bodies, and selected foreign countries.

A2308 Statistics for Library Science (0/3) This course offers an introduction to the descriptive and inferential statistics in information and library science study; fundamental statistical concepts and analytical methods, including measures of central tendency, measures of variability, correlation, tests, and so on.

A2329 Statistics Analysis and Decision Making (3/0) This course emphasizes data analysis and interpretation. Topics include analysis of variance, regression analysis, time-series forecasting and index numbers, decision tree, and so on. The software SPSS will be applied.

A2359 Information Literacy (0/2) This course will introduce students to the concepts of information literacy, discuss the relationship between information literacy and critical thinking, and present strategies to increase information literacy skills.

A2418 Seminar on Marketing and P.R. (2/0) This course offers an introduction to marketing and public relations. It focuses on service marketing and issues related to non-profit organizations.

A2428 Introduction to Digital Archives (2/0) This course discusses various issues of digital archives ranging from the definition to the evaluation of a digital archive project. Other related topics, including technical, legal and social issues, are also introduced to students in order for them to have an overview of the development of digital archiving.

A2432 Information Organization (I) (2/2) This course studies the history, theory and practice of information organization of all materials (traditional and digitized) in the Chinese language. Topics for discussion include: descriptive cataloguing (Chinese Cataloguing Rule (CCR)), subject analysis (Chinese Classification system, Chinese Subject Heading), bibliographic structure (Chinese MARC Format) and bibliographic control (Authority MARC Format…).

A2433 Information Organization (II) (2/2) This course studies the history, theory and practices of information organization, primarily in traditional and digital libraries. Students are introduced to the descriptive cataloguing and subject analysis of all types of library resources.

A2480 Project Management of Library (2/0) This course studies the project management theory, software, and how to apply it in library management. In the final report, students must use project management software and all the theories they have learned (e. g., Microsoft Project) to build a simulative project and present it in the last class.
A2515 Medical Information Service (2/0) This course provides an introduction to the basic health information functions, services and systems in the medical libraries. Emphasis will be placed on the role of health information services in terms of access to and disclosure of health information.

A2594 Business Information Service (2/0) This class introduces students to key business information sources and services, including bibliographic, statistical, and government-published sources for marketing, finance, management, accounting, economics, international business, and related fields. Pragmatic skills of business reference, competitive intelligence, collection development, training/instruction, and other services are explored.

A2595 Introduction to Innovative Publishing Industry (2/0) Publishing industry is one of the mainstreams of the cultural and recreation industry. The study of publishing and the book trade can be of great help to librarianship and content/database providers. It makes librarians, publishers, and editors have a good understanding about their surroundings and acquisitions market. Nevertheless, the book publishing industry has been greatly influenced by IT industry. The aim of the course is to give students sufficient appreciation of the background and to examine the relationship between publishers, booksellers and libraries at a time of rapid change. Attention will also be given to the impact of electronic database publishing, and to the social and economic context of the book trade.

A2596 Introduction to Information Architecture (0/2) This class introduces the student to key concepts and practices of information architecture (IA), including understanding IA within the broader context of librarianship, architecture and user experience, organization structures, labeling and taxonomies, interaction and interface design. Issues on planning, designing, developing, managing, and evaluating web resources are discussed. Practical skill of evaluating the content and technical aspects of existing informational, instructional, and promotional websites designed for libraries, schools, museums, and other organizations are explored.

A2597 Digital Records Management (0/3) This course introduces the concept of digital records management. Digital records management includes many tasks and activities which surround the creation, maintenance and disposal of records. Records management is not only on theoretic but also on practical activities which support the goals and functions of an organization. The information system of record management will be discussed and operated.

A2604 Library Collection Development (2/2) This course systematically deals with how to select and acquire all library materials, including purchase, gift and exchange, based on the collection development policy of a library.

A2644 Media Resources Management (2/0) The course topics will cover the definition of media resources management, the category and characteristics, the origin and usage of a library, digitalization of media, collection development and management of a library, etc.

A3395 Introduction to Library Networks and Information Communication (0/3) This course offers an introduction to library management, organizational structure, network communication, as well as for students to understand the problems and practice of an information retrieval system within the library.

A3396 Data Organizations and Structures (2/0) This course focuses on data structures. The course highlights the application of library automation systems that apply the concepts and techniques of data structures. Linked lists, stacks, queues, binary trees, B-trees, hashing, and searching and sorting will be introduced.

A3397 Introduction to Archival Studies (2/0) This course aims to introduce basic concepts of archival studies, including archives act, public archives, archival administration, collection development, appraisal, archival arrangement and description, archival digitalization, metadata and authority control, user education and exhibition, preservation, etc.

A3399 Seminar in Digital Library (2/0) This course examines the principles and practices of building digital libraries from a socio-technical perspective, including major issues, concepts and trends.

A3400 Information Systems Project (0/3) This course is an integrative and practical course. Students
will be asked to develop a complete information system. Some techniques will be applied to the system that includes database, system analysis skill, programming language, GUI design (Flash/Web), etc.

A3401 Studies on Reading (0/2) The course aims at a study that is sufficiently wide in scope to identify and describe the characteristics of the act of reading. Based on the needs of understanding the reading history and theory, the course designs a study to analyze the quality and level of reading activities. This will include considerations for reading program development, and alternative reading issues.

A3406 Introduction to Librarianship and Information Science (2/0) Students will gain basic knowledge of library practices and their management, including the development, design and evaluation of library services at all levels.

A3407 Reference Resources I (2/0) This course focuses on studying, identifying and reviewing the various types of Chinese reference resources. Students will learn how to use and value the importance of reference resources.

A3415 Reference Resources II (0/2) This course systematically deals with various types of Western reference materials. As a follow-up to the course, assignments on specific types of reference materials are required. In addition, measures and concepts of reference service are given to provide comprehensive reference works.

A3416 Reference Services (0/2) This course covers the theory and practice of reference services, interview tool, communication technique, and handling problem customers.

E0675 Computer Programming (2/2) This course systematically deals with the theory of computer language, programming and practical works in variant types of applications.

E0941 Introduction to Database (2/0) The course covers database analysis and design, the properties of relational databases and the designing methods for developing the database management systems.

E1034 Introduction to Computers (2/2) This course offers an introduction to the fundamental concepts of computer and information theory, practice the advanced computer skills.

E1039 Introduction to Computer Network (0/3) The course introduces the basic concepts of communication network, such as network protocols, network topology, wireless networks, mobile communications, and etc. It also covers advanced Internet skills and applications.

M0400 Management Information System (0/2) This course introduces information management. It provides an overview of contemporary information systems, technology-computer, telecommunications and office systems management. The objective of this course is to help students understand contemporary IT topics, including supply chain management, customer relationship management, knowledge management, electronic commerce, etc.

M1103 Knowledge Management (2/0) This course introduces knowledge management (KM). It offers an overview of a wide range of knowledge management techniques. The course not only discusses theory but also the best practices. The objective of this course is to help students understand the contemporary KM topics that include building block of knowledge management, defining knowledge goals, sharing and distributing knowledge, using knowledge, measuring knowledge, incorporating knowledge managements, etc.

Master's Program

A1381 Library Administration and Management (2/0) This course offers an introduction to library management theories, concepts, processes, and practices as well as designing, organizing, budgeting, controlling and reporting of library operations; techniques and methods of examining and evaluating personnel performance and staff development and training.

A1865 Seminar in Archival Studies (2/0) The purpose of this course is to introduce the whole concepts about archival studies, including archives act, public archives, archival administration,
collection development, appraisal, archival arrangement and description, archival digitalization, metadata and authority control, user education and exhibition, preservation, etc.

A2089 Seminar on Information Behavior (0/3) This course explores many aspects related to information-seeking behavior. Information-seeking behavior is regarded as crucial for all information professionals since it has implications for system design, information service provision, and instruction. Information-seeking theories, methods, and user behaviors will be covered in order to gain an understanding of how different groups of people seek, gather and retrieve information in a variety of information environments. Information-seeking behavior draws on literature from library and information science, psychology, and communications.

A2291 Reader Services (3/0) This course explores library collection, circulation and reference for the purpose of reader services, as well as the characteristics of the different patron group services. Librarians now must have a clear idea in mind about: the moral discipline of librarians, the education for users, information seeking behaviors of users, networking resources and interlibrary loans.

A2326 Digital Publishing and Scholarly Communication (3/0) Digital publishing has become a new medium that will have a fundamental effect upon all areas of the book trade and publishing industry. However, the scope and issues of DP are too diversified to focus on the research/course schedule. This course, as the course title suggests, will focus on Scholarly Electronic Publishing (SEP) and on the development of scholarly communication, including course theme and introduction, scholarly journal system, journal crisis, academic e-books, and the emergence of SEP and editorial system as a solution to librarianship and the publishing industry of the scholarly community.

A2354 Statistics for Information & Library Science (0/2) This course offers an introduction to the statistics application in information and library science study. The course focuses on multivariate analysis, such as ANOVA, MANOVA, Multiple Regression, Factor Analysis, Cluster Analysis, etc. Some tools like SPSS will be used.

A2490 Seminar on Digital Information Preservation (3/0) This course focuses on the methods of managing electronic resources efficiently, including the delivery of digital contents to end users and the management of the life-cycle related to electronic resources, such as acquisition, payment, licensing, archiving, preservation, convergence of different types of digital resources, and standards needed to facilitate the management of electronic resources.

A2492 Electronic Resource Management (3/0) Electronic resources may have different forms, management of electronic resources and is becoming more distinct from print. This course provides a comprehensive coverage of the theories, methods, research and practices connected with provision and management of electronic resources.

A3411 Health Sciences Information Sources and Services (0/2) This course focuses on medical libraries and knowledge-based information in the clinical and research setting. The course draws attention of prospective health information professionals to the nature of health and medical information, and the traditional and electronic means by which such information is organized, stored, and retrieved.

A3422 Informetrics (0/2) This course aims to quantify, describe, and predict the processes of written communication. Topics include: scattering of the literature, growth of the literature, scholarly productivity, collaborative authorship, citation motivation, citation practice, citation problems, evaluation of journalized databases and obsolescence.

A3560 Seminar on Children's Library Services (0/2) This course offers an advanced study of standards, trends, services, resources and evaluation of the children's library. It conducts an evaluation of library materials for children with a special emphasis on service for children in school and public libraries. Techniques for assisting in planning and carrying out of reading programs and story hours will also be covered in class.

A3570 Qualitative Research Methods (0/3) This course introduces the characteristics, principles and process of qualitative research. Several data collection methods are also discussed.
**E1393 Knowledge Engineering (3/0)** This course offers an introduction to knowledge representations, knowledge organizations, semantic networks, topic maps, expert systems, inference engines and intelligent systems.

**T0081 Research Methodology (2/0)** This course is designed to prepare postgraduate students for the performing of information and library science research. This includes identifying important research questions, critiquing research ideas and designs, planning and conducting substantive research investigations, and communicating research ideas and results.
DEPARTMENT OF MASS COMMUNICATION

Degrees Offered: B.A., M.A.

Chair: Yang, Mingyu (楊明昱)

The Department

Undergraduate Program

Established in 1983, the Department of Mass Communication embraces the most fundamental aspects of human interaction, from traditional mass communication to cutting edge communication technologies and information studies. Rooted in the College of Liberal Arts, the department is founded on a broad liberal arts education as the first professional requirement for future communicators. Students approach mass communication as science, art, and service while relating it to many facets of society.

Students majoring in mass communication must fulfill requirements for a Bachelor of Arts degree in the College of Liberal Arts. The curriculum focuses on content production, marketing communication, as well as the humanities and social science. A selection of courses in the sequences--TV, Radio, Films; Advertising, Public Relations, and Information Technologies--provide the technical training and knowledge to do professional work in the mass communication specialization.

Graduate Program

The department’s master’s program was launched in 1995. The establishment of this graduate program was a response to the strong demands of highly qualified communication professionals and in accordance with the University's long-term strategic plan. The graduate program focuses on providing advanced education in the fields of Information Studies and Marketing of Culture.

Over the years, our alumni have thrived in the areas of advertising, journalism, marketing, television, and information services. With a solid training, the graduates are also well prepared for the pursuit of advanced academic study in either domestic or international graduate programs.

Faculty

Professor
Chao, Yaly (趙雅麗)

Associate Professors
Chi, Huei-chun (紀慧君); Wang, Weitsy (王慰慈) ; Yang, Mingyu (楊明昱) ; Tang, Da-Lun (唐大崙)

Assistant Professors
Chu, Shiau-lung (朱孝龍); Hsu, Chawn-yang (許傳陽); Hung, Jenn-jia (黃振家)

Lecturers
Ma, Yu-pei (馬雨沛); Wang, Wei-kang (王維綱)

Degree Requirements

1. Requirements for a B.A. degree of in Mass Communication:
   Completion of 145 credits of courses, including 90 credits of required courses and 21 credits of elective courses.

2. Requirements for a Master's degree in Mass Communication:
   Completion of 30 credits of courses, including 9 credits of required courses and 21 credits of elective courses. Students are also required to submit a written master's thesis completed under the supervision of a faculty member, and pass an oral examination.
Course Descriptions

Undergraduate Courses

A0301 Multi-Media Communication (2/2) This course introduces application of multiple media content in a single work. In most cases, students suffer from “language-image” conversion, understanding the use of images is vital in digital multimedia environment. Hence, the process of conveying concept into images is the main theme of the course. This course will also assist students in enhancing their skills in moving images.

A0557 Feature Writing (0/2) This course is an advanced course in writing feature articles for newspapers and magazines. It covers basic components of feature writing principles, style, and structure, emphasizing different style writing purpose, connotation and techniques.

A0597 Advanced Professional Photography (2/0) This course provides operational training of the 4x5 Professional View Camera, manual lighting, various functional techniques of studies operation to coordinate the photographic knowledge and techniques with the requirements of advertising agencies printing media making techniques.

A0660 Newspaper Practicum (3/3) This course is designed for students to practice news-writing and news-editing through participation in the operation and production of community weekly newspapers.

A0667 Visual Communication (2/2) This course is designed to teach students how to analyze images and how to use images to communicate their ideas.

A0679 Mass Communication Research Methods (3/3) This course introduces students to the approaches to social research in mass communication as well as on how to analyze data and utilize results to solve problems related to mass communications.

A0692 Journalism (2/2) This course provides a survey of current theories and development of journalism. In this course, news is an interactive process, not only produced, but also transmitted and received.

A0764 Advertising (2/0) This course provides an introduction to advertising theories and the process of advertisement production.

A0844 Introduction to Drama (2/0) This course explores the fundamentals of drama and provides practical experience with stage performances in the Experimental Theater. It enhances students’ advertising literacy and enable them to apply what they learned in the real world.

A0868 Introduction to Art (2/2) This course introduces students to the masterpieces of paintings, sculptures, architecture, dancing, opera, and drama around the world, from the dawn of civilization to the contemporary art.

A1082 Production of Broadcasting Programs (2/2) This class provides students with hands-on experiences of radio program production, and also helps them understand the concepts and issues of the field.

A1084 Introduction to Sociology (2/2) This course is an introduction to the basic concepts of sociology. This course will inspire students with wider imagination to be useful for understanding social phenomena and practice in the mass communication.

A1087 Colloquium for Communication (2/2) This course is a pro-seminar type of course, providing a common open discussion ground on the current communication issues and problems by inviting scholars and specialists from various aspects of communication.

A1103 Media Critique (0/2) This course offers an application of theories of media to analyze the media culture in Taiwan. This course is designed for those interested in critical theory and training in critical thinking.
A1209 Communication Theories (2/2) This course familiarizes students with how communications work; system and functions of mass communications; communicators messages channels; audience, process and effects.

A1264 Media Management (0/2) This course offers an introduction to the various schools of management theories; case studies of media; and application of theories.

A1418 Broadcasting Practicum I (1/1) This course immerses students in a practical setting to foster their competency in media management and program production in the field of radio broadcasting.

A1419 Broadcasting Practicum II (2/2) This course is a continuation of Broadcasting Practicum I.

A1504 Introduction to Public Relations (2/0) This course provides an introduction to Public Relations and the operational models, basic learning of PR theory and PR practice.

A1568 Basic Photography (0/2) This course explores the theories of photograph materials and processes, and photographic techniques and equipment.

A1745 Script Writing for Movie and TV (0/2) This course emphasizes both writing theory and practical experience with scriptwriting (movies, TV show, plays), with special attention to the arrangements of characters and scenes.

A1780 Off-campus Practicum in Media (2/0) This course provides an opportunity for students who wish to practice in various areas of mass communication.

A1963 Broadcasting Practicum III (1/1) This course is a continuation of Broadcasting Practicum II.

A2209 Communication Psychology (2/2) The Psychology of Mass Communication maintains a multidisciplinary appeal and draws from developmental psychology, sensory and cognitive psychology, systems theory, and positive psychology. Psychology is a crucial factor that enables a message to trigger effects in others. For a better understanding of psychological effects in the field of communications, this course introduces the relationship of the human mind and behavior; and how they affect individuals and society.

A2280 Advertising Creativity (0/2) Advertisement aims to communicate a message persuasively. The objective of this course is to instruct students how to link the characteristics of a product with the needs of the consumers. This link will lead the way to make an effective advertising motif and the motif could be further developed into a set of persuasive advertising messages. Consequently, advertisers can successfully sell their products or services.

A2281 Popular Culture (0/2) This course introduces popular cultural phenomena and the meanings and ideologies behind them. Cultural phenomena such as American’s Woodstock Rock Music Festival to Jay Chow’s popularity in Taiwan in the field of popular music; icons from Marilyn Monroe in the U.S. (and to the world) to Lin Chi-ling in Taiwan, comedy cultures from Charlie Chaplin to Stephen Chow, etc. will be introduced as texts for analyses. Furthermore, this course introduces important theorists of contemporary visual culture studies, such as Jean Baudrillard, Louis Althusser, Antonio Gramsci, Walter Benjamin, Roland Barthes, and Judith Butler. This course employs a cross-cultural and interdisciplinary approach to familiarize students with the complex ideologies behind popular cultures.

A2342 Public Communication (0/2) The goals of this course are to help students: (1) to develop confidence when expressing themselves before a group; (2) to reason logically; (3) to orally present their information, ideas, and opinions in a coherent, organized fashion; (4) to learn the basics of outlining and organizing a speech; (5) to learn the basics of informative and persuasive speaking listen critically and objectively.

A2383 Introduction to Digital Content (2/0) This course introduces digital applications on diffusion of innovations and changing attitude. Every unit in the course introduces operating methods on knowledge, persuasion, decision, implementation, and confirmation by using digital media; and discusses theory and practice process. This course provides a cross-media and cross-domain view of
digital communication for students.

**A2384 Special Reporting and Project (2/0)** This course emphasizes training of special reporting and project skills and concepts by means of consistent practice and operation, as well as class discussion and lecture.

**A2407 Theories of Creativity (2/0)** Thinking is conditioned by habit. The objective of this course is to transform the habitual way of logical/vertical thinking into sensitive/horizontal thinking. Students will be able to discover their potential in creative thinking. Moreover, by way of multisided thinking, students will make their life and learning more stimulating, challenging and interesting.

**A2459 Introduction to Communication Profession (2/0)** This course is designed for the freshmen of Mass Communication Department, helping new university students to bridge the gap between high school and college and acquire abilities for their learning life and competence in the long run. The course content includes: communication introduction, course structure of the Mass Communication Department, educational goals of the Mass Communication Department, course taking decision, learning attitude, information literacy, thinking and reasoning, EQ management, and expression ability.

**A2460 Graduate Project: Independent Study and Exhibition (3/3)** This course covers three subjects: film production, multimedia production, marketing communication campaign design. Students need to complete a finished work either on paper or visual presentation for their special study.

**A2520 Cross Media Marketing Planning (2/0)** This course provides the basic introduction about the cross media marketing and the related application. Students will be trained for the planning ability to conduct the cross media marketing campaign.

**A2521 Pre-production of Audio Visual Program (2/2)** This course is designed to provide students with the planning methods of various types of television programs, and a complete how-to workshop on the pre-production field in TV.

**A2522 Production of Audio Visual Program (2/2)** This course teaches students characteristics of TV program, TV production, procedures, models, pre-production planning and strategy, videotaping, live-coverage, post-production, editing, wound-effect, special effects, TV program and viewers.

**A2523 Pro-seminar for Marketing Communication (0/2)** This course covers multiple subjects about marketing communication. Students need to conduct teamwork for their selected case study related to marketing communication.

**A2524 Storyboarding and Editing of Audio Visual Program (2/0)** The aim of this course is to analyze the basic visual and dramatic components of a shot and the editing principle of a narrative.

**A2525 Social Marketing (0/2)** This course is designed to realize the theory and practice of non-profit originations and the third sector how to promote and communicate their ideas to public by marketing theory.

**A2526 Communication English (2/2)** This course introduces students to some major English newspapers, news agencies, and English newspapers' headlines and leads. Students will be trained in their English news reading, translating, listening, speaking, and writing skills.

**A2527 Reporting on International Affairs (2/0)** This course introduces the reporting of international news on political affairs and business. During the course, printing media, electronic media and digital media will be reviewed.

**A2528 Information Writing and Editing (3/3)** This course gives students opportunities to practice reporting and writing for print media; editing and headline construction; and page design.

**A2529 Readings in Communication (2/0)** As an introduction to the fundamental contemporary and classical works in communication arts, this course is designed to make a connection across texts, authors, producers, institutions, society and history.
A2531 Television Practicum (I) (2/2) The course is intended to offer students the opportunity to produce creative TV news and program. Students are taught to be responsible media professionals and are prepared to adjust to the changing electronic media environment.

A2532 Television Practicum (II) (2/2) The course is intended to offer students the opportunity to produce creative TV news and program. Students are taught to be responsible media professionals and are prepared to adjust to the changing electronic media environment.

A2534 Law and Ethic in Communications (2/0) This course aims to introduce the major concepts in the regulation of media industry. Issues discussed in this class include the freedom of speech, the access of media and the protection of privacy rights. The goal of this course is to prepare students with the basic understanding of legal issues in the field of media professionals.

A2543 Introduction to Message Design (0/2) Message is a sign pattern for meaning communication, including language (verbal), text, image, action, etc. A message contains meaning itself and between the lines. Message design is to making cognition and emotion connections between message sender and receiver, so to achieve communication effect. There are two means to achieve communication, with face-to-face and medium. This course discusses message meaning and its applications covering text, sound, and image in printing media, electronic media, and digital media. With different media, students learn in which the content being generated and understood. To help students construct learning direction in the future, the course emphasizes individual research and exploration. Attaining the linkage ability of theory versus reality and problem solving through discover, analysis, resolve, and apply process.

A2544 Introduction to Human Communication (2/0) The broad-based communication course includes the theory of communication, interpersonal communication, small group communication, and public speaking. Students are invited to investigate life and career planning from their communication perspective.

A2545 Documentary Photography (2/0) This course is designed for students to understand the principle of documentary photography. Students will learn the knowledge, technique and build the creative ability of series images in this field.

A2553 Visual Art (0/2) This is an advanced class studying the ways in which visual media create meanings. Emphasis will be placed on filmic and tele-visual texts.

A2554 Introduction to Marketing (0/2) This course teaches students marketing opportunities, selection of a target market, deciding upon a marketing strategy, and then developing a marketing mix: product, pricing, distribution and promotion.

A2555 Development of Media Communication (0/2) This course emphasizes the procedures of developments of mass media, and also emphasizes the relationship between mass media and contemporary society.

A2593 Introduction to Film and TV Entertainment Industry (2/0) This course introduces to students the basic structure of film and TV industry. It explores three aspects of entertainment industry: TV and related industries. Professionals in the related fields will be invited to the class to discuss face-to-face with the students.

A3409 Current Issues in Communication (3/3) This course examines existing issues in communication education, media literacy, broadcasting, press, communications policy, etc., with a focus on current debates. The goal is to develop a practical approach to current debates while at the same time encourage students to develop a critical thinking and understanding of certain controversial communication issues. Discussions will be focused on a particular issue of the week, and assigned reading will contain articles relevant to that issue. All students are expected to read the articles before the class and assigned groups are required to prepare for seminar presentations.

A3414 Digital Communication (2/2) This course introduces design and process of still image for digital environment presentation. To achieve the learning objective, Adobe Photoshop and Adobe InDesign are used as the tool to understand the characteristics of static digital media. Because this course...
is designed for communication majors to better handle digital media, process of conveying concept is the main theme of the course. This course provides a cross-media and cross-domains view of digital communication for the students.

**A3450 Consumer Behavior (0/2)** This course provides a basic introduction to consumer behavior theory and the process of consumer behavior.

**A3529 Film Studies (2/0)** This course encourages students to critically examine the arts and industries of films. Three major domains are film theory, film aesthetics, and film history. We explore their impact on the society, politics, economy, and aesthetics. We study the language of moving visual images and sounds, and the ways they use to connect with the rest of the world.

**B0260 Organizational Behavior (2/0)** This course aims to provide students with essential theoretical fundamentals and practical skills in an organizational context.

**M0550 Public Relation Practicum (0/2)** This course focuses on the study of the relationship between PR and media. By analyzing PR cases, students will be able to apply PR theory to real practice.

**Master's Program**

**A1209 Communication Theories (3/0)** This course is designed to help students understand the nature of theory, how to develop a theory, and how to use it. It is also designed to sensitize students to the role and types of inquiry. Specific theories are used as background information and as examples.

**A1288 Cultural Studies (3/0)** This course investigates contemporary cultural theories and critical methodologies, with an emphasis on topics such as popular culture, the representation of ethnicity and gender, as well as media criticism.

**A1462 Discourse Analysis (3/0)** This course introduces students to several major branches in the analysis of discourse. We will cover discourse analysis from an interdisciplinary perspective and will apply different approaches, ranging from sociolinguistics and narrative analysis to conversation analysis and critical discourse analysis.

**A1502 Integrated Marketing in Communication (0/2)** This course focuses on the integration of various marketing tools in relation to the needs of customers; how to integrate strategy and communicate effectively.

**A2377 Statistic Method of Social Sciences (0/3)** This course offers an introduction to the statistic principles and their applications. Students will be trained for the statistic based thinking ability to conduct data analysis.

**A2487 Culture Industry Seminar (0/3)** The purpose of this course is to teach the process of producing a project in the culture industry. The class will focus on the “methods of knowing” and studying cultural phenomena. In this course, a wide range of culture industries, theoretical principles and methods that serve as the foundation for practicing the project will be reviewed. In particular, class lectures, presentations and assignments will emphasize conceptual and operational features of figuring out a solution in the industry.

**A2488 Special Issues in Film and Culture (3/0)** This course explores the interrelationship between film and culture. Various schools of theories, critical methods and approaches will be reviewed. Different issues on film and culture are emphasized in each semester.

**A2489 Media and Cultural Consumption (0/3)** This course provides students with some analytical and methodological tools and encourages them to have critical reflections upon their everyday life. It emphasizes the dynamic connections between research problem, method, theoretical approach, analytical concept and subject matter. Multiple, intersecting structures of power, meaning, and culture will also be examined.

**A2546 Seminar in Communication Careers (1/1)** This course aims to help students understand the role and nature of communication. It focuses not so much on existing communication professions but
more on the process of discovery itself. Students are encouraged to rethink about the most currently popular "myths" on “what communication is.” Students are also expected to develop a deeper understanding of the nature of communication and of the ways to pursue a professional career in communication.

**A3414 Digital Communication (0/3)** Computer technology has created a new communication community besides the real society-virtual community. The communications among the real society, virtual community, and media have become more and more complicated. This course aims to explore the psychology and behavior of the virtual community, and methods of managing virtual communication. Classroom activities include discussions, case studies, and reports.

**A3517 Organization and Management (3/0)** This course examines the mechanism of interaction between people and organizations, and the application of management concepts.

**M1229 Brand Management (3/0)** This course offers an introduction to the brand related theory and the branding process. Students will be trained to deal with brand management.

**T0081 Communication Research Methods (2/2)** This course explores issues relevant to measurement, design, and analysis in communication research, using techniques of both qualitative and quantitative research methods.

**T8000 Thesis (0/4)**
DEPARTMENT OF INFORMATION AND COMMUNICATION

Degree Offered: B.A., M.A.

Chair: Liu, Hui-chuan (劉慧娟)

The Department

The Department of Information and Communication, established in 1998, offers an in-depth study of various aspects of an increasingly growing technology-mediated-communication world. The mission is to achieve academic excellence and gain national as well as international recognition in education, research and service. As the boundaries among communication media become blurred, scholars and professionals are presented unprecedented opportunities and challenges to participate in the shaping of the digital future. The curriculum aims to address the broad range of changes that have occurred in the information and communication industry in recent years. Students may customize their studies based upon two main tracks: (1) interactive new media design and production, and (2) information and communication management and marketing. Although students are encouraged to focus their studies on one of the two tracks upon their admission to the program, students may move freely between the tracks to gain necessary expertise needed in today's workplace. Overall the program will enhance students' understanding of information and communication technologies and their impact on the social, cultural and commercial domains; prepare students to excel in diverse new communication environments; promote artistic creativity, strategic planning and scholarly research in all areas of digital media; and prepare students for careers in new media as well as the traditional media industries transformed into new information and communication technologies.

Faculty

Associate Professors
Jow, Mei-ling (卓美玲); Liu, Hui-chuan (劉慧娟)

Assistant Professors
Shih, Chien-chou (施建州); Sun, Chien-yu (孫蒨鈺); Yang, Jyh-ming (楊智明);
Lai, Hui-ju (賴惠如); Chen, Yi-Wen (陳意文)

Lecturer
Lu, Hsian-fu (盧憲孚)

Degree Requirements

1. Requirements for a B.A. degree of in Information and Communication:
   Completion of 134 credits of courses, including 81 credits of required courses and 53 credits of elective courses.

2. Requirements for a Master's degree in Information and Communication:
   Completion of 30 credits of courses, including 12 credits of required courses and 18 credits of elective courses. Students are also required to submit a written master's thesis completed under the supervision of a faculty member, and pass an oral examination.

Facilities
The Department has its own Creative Digital Media Laboratory (CDML)

Course Descriptions

Undergraduate Courses

A0679 Communication Research Methods (2/2)  This course familiarizes students with approaches to social research in communication as well as procedures and techniques of data collection and analysis.
A1084 Introduction to Sociology (0/2) This course offers an introduction to the basic concepts and theories of sociology.

A1209 Communication Theories (2/0) This course reviews major theories and models of studying processes, functions and general principles of communication.

A1718 Message Design (0/2) This course explores creative ways to design messages for various interactive media.

A1780 Internship (2/0) This course provides opportunities for students who wish to gain professional work experiences in various areas of the information and communication industry before graduation.

A1930 Introduction to Human Communication (2/0) This course provides an overview of concepts and principles in human communication studies.

A1931 Information, Communication and Society (0/2) This course explores the interplay of new media, information technologies and digital art forms in the information society.

A1932 Introduction to Visual Communication (2/2) This course introduces basic elements of visual images and explores techniques of reading and analyzing visual images.

A1970 Introduction to Economics (2/0) This course offers an introduction to the basic concepts, models and theories of microeconomics and macroeconomics.

A2008 Introduction to MIDI (0/2) This course introduces the general principles, specific techniques and hands-on practice of digital music production.

A2163 Topical Seminar in Information Networks (0/2) This course explores current trends and issues concerning information and communication networks and industries.

A2167 Information and Communication User Analysis (0/2) This course discusses approaches to researching and analyzing information and communication users’ behavior patterns.

A2209 Psychology of Communication (2/0) This course discusses concepts and theoretical constructs in psychological theory relevant to the psychological and cultural aspects of communication.

A2258 Introduction to Sketch (2/0) This course introduces elements of sketch to develop students’ competence in visual thinking through hands-on practice.

A2259 Practicum of Creative Digital Media I (2/2) This course provides opportunities for students to develop team projects on topics relevant to creative multimedia.

A2260 Practicum of Creative Digital Media II (1/1) This course provides opportunities for students to develop team projects on topics relevant to creative new media.

A2312 English Readings in Information and Communication (1/1) This course introduces reports and papers on the current developments of information and communication written in English and published in the trade journals or on the Internet.

A2315 Selected English Readings in Information and Communication (1/1) This course introduces reports and papers on the current issues of information and communication written in English and published in trade journals or on the Internet.

A2340 Interface Design (0/2) This course explores relevant interface design issues concerning interactive computer systems from a user's perspective.

A2364 Principles of Color and Design (2/0) This course introduces fundamental concepts of color and design.

A2365 New Media Theories (2/0) This course focuses on the major concepts, constructs and
theoretical perspectives concerning information and communication or new media.

A2367 Computer Programming: Active Server Pages (2/0) This course introduces the basic concepts and principles of the Active Server Pages (ASP) programming design.

A2404 Introduction to the Digital Content Industry (0/2) This course offers an introduction to the development, practices, strategies and challenges of the digital content industry in Taiwan.

A2405 Integrated Project in Digital Content I (2/0) This course introduces production techniques and provides hands-on experiences in developing digital content projects.

A2406 Web-Based Interactive Programming Design (2/0) This course introduces principles and practices of web-based interactive programming design.

A2409 Introduction to Photography (2/0) This course explores theories of photographic materials and processes, and introduces photographic techniques and equipments.

A2411 Integrated Project in Digital Content II (0/2) This course introduces advanced production techniques and provides hands-on experiences in developing digital content projects.

A2509 Digital Marketing (2/0) This course explores creative strategies and applications of marketing in the digital environment.

A2512 Digital Image Creation (0/2) This course provides students with general principles, specific techniques and hands-on practice of computer-aided photographic image editing.

A2513 Digital Video Production (0/2) This course provides students with general principles, specific techniques and hands-on practice of computer-aided video production and editing.

A2514 Creative Strategies and Proposal Writing for Marketing (0/2) This course explores various ways of developing creative campaign strategies for marketing in general and digital marketing in particular.

A2539 Graduation Project (3/3) This course provides opportunities for students to conduct projects in their areas of specialization within the realm of new media.

A2570 Introduction to Information and Communication Technologies (2/0) This course introduces development, applications and consequences of major information and communication technologies.

A2598 Introduction to Creative Industries (2/0) This course focuses on the developments, practices and challenges of cultural and creative industries.

A2599 Storytelling and Storyboarding (0/2) This course explores the techniques and applications of storytelling and storyboarding across various media.

A2600 Interactive Marketing (0/2) This course explores applications and strategies of interactive marketing.

A2601 Web Service System Practices (0/2) This course introduces technical specifications and applications of web service systems and provides opportunities for hands-on experiences of establishing and managing web service platforms.

A2602 Media Database Marketing (2/0) This course introduces technical fundamentals and applications of web-based media database systems.

A2603 Portfolio Design (2/0) This course focuses on writing personal resume, classifying artworks, design and production, and presenting personal portfolio by using digital media for job searching or for graduate programs.

A3420 Aesthetic Strategies and Design (2/0) This course explores the fundamental concepts of
aesthetics and their applications to creative design.

**A3440 Web Animation (2/0)** This course introduces the general principles, specific techniques and provides hands-on practice of web computer animation design and production.

**A3443 3D Animation (0/2)** This course introduces the general principles, specific techniques and provides hands-on practice of 3D computer animation design and production.

**A3447 Creative Design of Digital Content (0/2)** This course explores various creative ways of designing digital contents.

**A3482 Information and Communication Industry Analysis (2/0)** This course explores analytical approaches and hands-on methods for the information and communication industry.

**A3568 Advanced 3D Animation (2/0)** This course focuses on advanced principles, techniques, and hands-on practice of 3D computer animation design and production.

**B0061 Introduction to Marketing (0/2)** This course discusses the basic principles of marketing strategies and planning.

**E0594 Programming Design (2/0)** This course introduces fundamental topics in computer programming, including HTML and VBScript programming.

**E0718 Computer Graphics (0/2)** This course introduces general principles, techniques and hands-on practice of computer-aided drawing and painting.

**F0139 Introduction to Psychology (2/0)** This course offers an overview of general principles and mechanisms of human psychology.

**M0405 Introduction to Management (0/2)** This course introduces the basic principles and theories of management.

**M0979 Legal Aspects of Information and Communication (0/2)** This course focuses on fundamental legal issues pertaining to information and communication technologies and industries.

**M0980 Current Issues in Information and Communication (3/3)** This course examines current issues resulting from the emergence of advanced information and communication technologies.

**M1184 Introduction to Information Network (2/0)** This course introduces the latest information and telecommunication systems and relevant technical specifications such as WiMax, WCDMA, HSDPA, HSUPA and UMB.

**Master's Program**

**A1718 Message Design (0/3)** This course explores creative strategies for designing messages in new media.

**A2365 New Media Theories (3/0)** This course explores major concepts and theoretical constructs concerning information and communication or new media.

**A2441 Information and Communication Policies (0/3)** This course explores fundamental and pressing policy issues concerning information and communication technologies and industries.

**A2452 Digital Media Arts (3/0)** This course introduces creative processes of various modern digital media art forms.

**A2454 Web Services Design (0/3)** This course explores applications and design issues concerning web services systems.

**A2455 Media Database Systems (3/0)** This course explores design issues concerning digital media
database system.

A2509 Digital Marketing (3/0) This course explores creative strategies and issues for marketing in the digital environment.

A2511 Topical Seminar in Information and Communication Industries (3/0) This course discusses major issues concerning information and communication industries.

A2556 Topical Seminar in Information and Communication Management (3/0) This course discusses major issues concerning information and communication management.

A2605 Media Ecology (3/0) This course explores how communication media affect our values and lives as well as how interaction with media facilitates technical and social changes.

D0237 Seminar in Digital Media (0/3) This course introduces aesthetics and creative design methods of digital media as well as provides hands-on experiences for students to explore various applications of digital media design.

M0853 Electronic Commerce (0/3) This course examines issues concerning the applications and practices of electronic commerce.

T0081 Research Methodology (3/3) This course familiarizes students with approaches to social research in information and communication as well as procedures and techniques of data collection and analysis.
CENTER FOR CHINA STUDIES

Director: Chen, Shih-hua (陳仕華)

Center for China Studies was founded in August 1998, a combination of academic institutes for Sinology studies. Its main task is not only to develop Sinology studies at our school but also to promote academic activities among Tamkang and other international universities or centers of Sinology.

This center comprises 8 research offices. They are: Popular Novels (通俗武俠小說研究室), Chinese Women’s Literature (中國女性文學研究室), Image Records (圖像文獻研究室), Literature and Art (文藝研究室), Written Couplets (楹聯研究室), History of Taiwan (台灣史研究室), Wine Culture (酒文化研究室), Field Investigation (田野調查研究室). These research offices are organized by professors from the Departments of Chinese Literature, and History.

This center has hosted local and international academic conferences and invited scholars from overseas to preside at seminars on Chinese literature. Recently, three academic associations were established. They are: Chinese Han Linguistics and Cultural Studies (漢語文化學學會), Chinese Bibliography and Chinese Literary History (古籍文獻學學會) and Encircle China Sea (環中國海研究學會) to further strengthen local Sinology studies.
COLLEGE OF SCIENCE
DEAN: Wang, Bo-cheng (王伯昌)

BRIEF HISTORY

The College consists of three departments (Mathematics, Physics, and Chemistry). It was established in 1958, and is one of the oldest colleges in this University and also among the private universities in Taiwan. The Departments of Chemistry and Mathematics were established in 1958. The Department of Physics began in 1963. The Undergraduate Program of Sciences, established in 2008, is designed to provide a flexible and interdisciplinary learning environment in the science area for freshmen of the College. This program offers students an opportunity at the beginning of their higher education to find out their academic strength and pursuit. By the end of the freshman year, each student may choose his/her academic major from the three Departments of the College. The objectives of active teaching and research have become the tradition of the College, and the numbers of faculty members and students are growing steadily through the years. As of 2010, the College has 78 full-time faculty members, including 40 professors, 22 associate professors, and 16 assistant professors. Over 99% of the faculty members hold a Ph.D. degree, obtained domestically or abroad.

In addition to the College curricula, our faculty devote themselves to the design and teaching of the University’s core courses, which include Natural Science, Three Scientific Revolutions and the Universe with Space-Time, The Impact of 21st Century Global Technology Revolution, etc. Moreover, both the Mathematics and Physics Departments set up official consulting centers for high school science teaching consultations with the support of the Ministry of Education in 2000. The College emphasizes interdisciplinary basic and applied science programs; therefore, photo-electronics, material, biochemistry, and life science are the main focus for both teaching and research.

A pioneer “Self-evaluation” program was launched jointly by the three departments in 1999 to justify their future prospects and was reviewed in 2003. All the teaching staff devote their efforts to the policy of “Activating the Department,” reforming the curricula for the undergraduate students in order to meet the challenges of modern society. The reforms have continued since 2000. The Department of Chemistry has two sections: Chemistry and Biochemistry Section and Material Chemistry Section; the Department of Physics has conducted a Photo-electronics Curricular Program for pure and applied physics since 2002. The Department of Mathematics has had a Data Science and Mathematical Statistics Section and pure mathematics since 2004. These programs have been followed up by a continuous monitoring mechanism since then.

In order to integrate material and bio-technology research within the University, two additional research-oriented centers were set up, which are Nano-technology Center and Life Science Development Center, both established in 2003. These Centers have been offered a special funding by the University to manage a core research facility platform that serves research needs.

MOTTO AND GOALS

1. Having teachers teach and learn in a fun and enjoyable way; achieving holistic self-cultivation
2. Expecting students to yearn for knowledge, and to cultivate virtue along with knowledge

FUTURE DEVELOPMENT

1. Facilitating communication among teachers from different departments
2. Helping young faculty with teaching and research work with all our strength
3. Inviting senior and excellent teachers to join us
4. Enhancing collaboration with other universities
5. Strengthening teaching activities in high schools
6. Strengthening the relationship with alumni for sticking together

COURSE DESCRIPTIONS

UNDERGRADUATE COURSES

A0452 INTRODUCTION TO JAPANESE

The program begins with knowing the alphabets. By providing basic
level vocabulary this course helps students to apply Japanese to their everyday lives. Interactive activities are also designed to motivate beginners.

**F0568 Advanced English Reading and Writing** The purpose of this course is to build students' reading strategies and enrich their vocabulary for helping them read the academic texts smoothly. The techniques of organizing the ideas and writing an essay in English are also introduced in this course. The goal of this course is to help students to perform well on the iBT TOEFL and IELTS tests.

**F0591 Japanese Reading and Composition** This course includes the beginning and intermediate levels of reading and writing in Japanese. In reading articles, students can develop more vocabulary and grammar proficiency. Moreover, application of grammar in writing short essays can be a good way of practice.

**S0857 Scientific Research** This course will discuss ethics & code of conduct, laboratory safety, and scientific productivity. The course objective is to assist graduate (and/or undergraduate research) students in the College to enhance their scientific research productivity. The one-on-one arrangement will be made to review, correct, and revise the scientific papers from faculty and students.
DEPARTMENT OF MATHEMATICS

Degrees Offered: B.S., M.S., Ph.D.

Chair: Chan Chang, Whei-Ching (張慧京)

The Department

This department was founded in 1958 and since 1966 has consisted of the Mathematics and the Statistics sections. The master's program was established in 1969 with the addition of the Ph.D. program in 1990.

The primary goal of the department is to provide students with the opportunities to understand basic concepts of mathematics, to explore various areas, and to broaden their views in mathematics and statistics. The department offers both need-based and merit-based scholarships.

The department has its own computer laboratory which houses 100 personal computers with a local-area network completed in 1994. Mathematics/statistics software packages such as SAS, MATHEMATICA, and MAPLE are available for teaching and research. The Tamkang Journal of Mathematics, an internationally known quarterly, was first published by the department in 1970.

The graduate program in teaching mathematics for teachers was added to the department in 2009.

Faculty

Professors
Chan Chang, Whei-ching (張慧京); Chang, Yue-cune (張玉坤); Chen, Kung-yu (陳功宇);
Chen, Shun-yi (陳順益); Cheng, Wei-hou (鄭惟厚); Chyan, Chuan-jen (錢傳仁);
Guo, Jong-Shenq (郭忠勝); Hu, Shou-jen (胡守仁); Kau, Chin-mei (高金美); Lin, Chien-tai (林千代);
Liu, Fon-che (劉豐哲); Tam, Bit-shun (譚必信); Tseng, Shio-jenn (曾琇瑱);
Wang, Hsiao-lan (王筱蘭); Yang, Gou-sheng (楊國勝)

Associate Professors
Huang, Yih-huei (黃逸輝); Lee, Wu-yen (李武炎); Shieh, Chung-tsun (謝忠村);
Wang, Kui-jang (王國徵); Wu, Hsiu-fen (吳秀芬); Wu, Jyh-shyang (伍志祥);
Wu, Meng-nien (吳孟年); Yu, Cherng-yih (余成義)

Assistant Professors
Pan, Zhi-shi(潘志實); Wen, Chi-chung (溫啟仲); Wu, Han-ming (吳漢銘); Yang, Ting-hui (楊定揮)

Degree Requirements

The Department of Mathematics offers two programs at both the graduate and undergraduate levels, namely the Mathematics Program and Statistics Program.

1. Requirements for a degree of B.Sc. in Mathematics:
   Completion of 134 credits of courses, including 77 credits of required courses and 43 credits of elective mathematical courses.

2. Requirements for a degree of B.Sc. in Statistics:
   Completion of 134 credits of courses, including 83 credits of required courses and 37 credits of elective Statistics courses.

3. Requirements for a Master's degree in Mathematics and Statistics:
   Completion of 24 credits of required courses. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

4. Requirements for a Master’s degree in Teaching Mathematics:
   Completion of 30 credits of required courses. Students are also required to submit a written master’s
thesis completed under the supervision of a faculty member and pass an oral examination.

5. Requirements for a degree of Ph.D. in Science:
   Completion of 30 credits of courses. Students are required to pass one qualifying examination within the first five semesters and the second qualifying examination within seven semesters, publish at least one research paper in any journal listed in Science Citation Index, submit a written doctoral dissertation completed under the supervision of a faculty member, and pass an oral examination.

**Course Descriptions**

**Undergraduate Courses**

**Mathematics Section**

**E0767 Numerical Analysis (3/3)** Interpolating polynomials, Newton's method, fixed point iteration, numerical differentiation and integration, Euler's method, Runge-Kutta method, Gaussian elimination with pivoting, power method, Householder transformation, QR algorithm, least square approximation, orthogonal functions.

**M0517 Statistics (0/3)** Fundamental concepts of statistics, including estimation, testing of hypotheses and applications.

**S0024 Analysis I (3/3)** Various topics in real analysis, including measure, measurable functions, integrable functions, the Lebesque spaces, modes of convergence, decomposition of measures, and generation of measures.

**S0027 Analysis II (3/3)** Further studies on various topics in real analysis.

**S0051 Algebra (3/3)** Basic algebra structures, including groups, rings, and algebraic field extensions.

**S0090 Vector Analysis (0/3)** Tangent, normal and binomial vector, curvature, orthogonal curvilinear coordinates, Laplacian, line integral, conservative fields, potential function, oriented surface, Green's theorem, divergence theorem, Stoke's theorem.

**S0132 Topology (3/3)** Essentials in point set topology, including the concept of topological spaces, connectedness, compactness, countability axioms, separation axioms.

**S0155 Modern Algebra (3/3)** Further studies in the structures of groups, rings, fields and Galois theory.

**S0210 Advanced Calculus (4/4)** The number systems, topological structures of $\mathbb{R}^n$, continuous functions, differentiable functions of one variable, Riemann-Stieltjes integrals, sequences and series of functions, differentiation on $\mathbb{R}^n$, inverse and implicit function theorems, integration on $\mathbb{R}^n$.

**S0252 Fundamentals of Mathematics (2/2)** Introduction to basic notion of set theory: topics include axioms of set, relations, partially ordered sets, natural numbers, finite and infinite sets and logic.

**S0277 Combinatorics (3/3)** Enumeration, generating functions, recurrence relations, graph theory and networks.

**S0284 Geometry (3/3)** Study of curves and surfaces, including first and second fundamental forms, Gaussian map, Gauss-Bonnet theorem, geodesics.


**S0325 Calculus (4/4)** Limits, differentiation and integration of functions of one variable, infinite series, functions of several variables, partial derivatives, multiple integrals.
S0336 **Computer Applications in Mathematics** (3/3) The use of computer and software packages in solving problems in mathematics.

S0439 **Linear Algebra** (3/3) Vector spaces, linear transformations, matrices, eigenvalues and eigenvectors, Jordan and rational canonical forms, inner product spaces.

S0450 **Probability Theory** (3/0) Basic concepts in probability, discrete and continuous random variables, expectation, bivariate probability distributions and functions of random variables, sampling distributions.

S0579 **Complex Analysis** (3/3) Analytic functions, complex integration, Cauchy's theorem, sequence and series of analytic functions, conformal mappings, and analytic continuation.

S0616 **Linear Algebra II** (3/3) Further studies of various topics in linear algebra.

**Data Science and Mathematical Statistics Section**

M0115 **Multivariate Analysis** (3/3) Multivariate normal distribution, Hotelling's test, MANOVA, Factor analysis.

M0153 **Operation Research** (3/3) Linear programming, the simplex algorithm, sensitivity analysis, transportation, assignment, transhipment problems, network models, integer programming, game theory, queuing theory, inventory models.

M0202 **Quality Control** (3/3) Importance of quality control, early history, Deming's philosophy, process thinking, improving a process, the seven basic tools, control charts for means, ranges, individuals, proportions and counts.

M0264 **Time Series** (0/3) Single variable time series models, estimation, ARIMA models, model building and forecasting, seasonal models.

M1043 **Survival Analysis** (3/3) Special features of survival data, survival function, KM estimate, Cox's PH model and its assumption, general stratified Cox procedure, extension of Cox's PH model.

S0061 **Reliability Analysis** (3/3) Reliability concepts, and statistical analysis of censored data, degradation data and accelerated life tests.

S0210 **Advanced Calculus** (4/4) The number systems, topological structures of $\mathbb{R}^n$, continuous functions, differentiable functions of one variable, Riemann-Stieltjes integrals, sequences and series of functions, differentiation on $\mathbb{R}^n$, inverse and implicit function theorems, integration on $\mathbb{R}^n$.

S0250 **Applied Statistical Software** (2/2) Introduction to data input, output, and programming using SAS and S-plus.

S0266 **Introduction to Statistics** (2/2) This course covers the basic concepts of statistics and its uses in daily life.

S0295 **Nonparametric Statistics** (3/3) This course introduces nonparametric methods and related theories.

S0325 **Calculus** (4/4) Limits, differentiation and integration of functions of one variable, infinite series, functions of several variables, partial derivatives, multiple integrals.

S0364 **Computer Applications in Statistics** (3/3) Advanced programming of SAS, including SAS/connect, SAS/graph, SAS/AF, and SAS/insight.

S0408 **Experimental Design** (3/3) One-way and two-way classification, Latin squares, factorial designs.

S0582 **Mathematical Statistics** (4/4) Some probability concepts, random variables and their
distribution, moments of random variables, characteristic function, moment generating functions. Stochastic independence, limit theorem, transformations of random variables and random vectors, order statistics, point estimation, testing hypothesis, confidence intervals, Quadratic forms.


S0458 Stochastic Process (3/0) Poisson process, Markov chains, and applications.

S0487 Discrete Mathematics (3/3) Counting, logic, mathematical induction, relations, finite state machines, generating functions, recurrence relations and graph theory.

S0722 Clinical Trials (3/3) Planning and design, basic design consideration, randomization and blinding, sample size determination, efficacy and safety evaluations.

S0733 Queueing Theory (3/3) Birth-death models, M/M/1 system, M/M/2 systems, M/G/1 system, G/M/1 system, networks of queues, transient solutions.

Master's Program

Mathematics


S0046 Algebraic Topology (3/3) Singular homology theory, cohomology ring and duality in manifolds.

S0051 Algebra (3/3) Groups and rings; free, projective and injective modules; Hom and tensor product, field extensions and Galois Theory.

S0079 Abelian Groups (3/3) Ulm's Theorem and various structure theorems, homological methods, and recent results.

S0187 Matrix Theory (3/3) Similarity, diagonalization, unitary equivalence, normal matrices, Jordan canonical forms, variational characterizations of eigenvalues of Hermitian matrices, matrix norms, location of eigenvalues, non-negative matrices.

S0238 Partial Differential Equations (3/3) First-order equations, principles for higher-order equations, Fourier methods, the differential equations of physics and engineering.

S0277 Combinatorial Mathematics (3/3) Introduction to enumerative combinatorics, graph theory, and combinatorial designs.

S0320 Differential Geometry (3/3) Euclidean geometry, geometry of surfaces in Euclidean space, Riemannian geometry.

S0402 Graph Theory (3/3) Planar graphs, graphs coloring domination, independence, chromatic numbers and networks.


S0573 Special Topics in Analysis (2/2) Selected special topics in mathematical analysis.

S0598 Combinatorial Design (3/3) Orthogonal Latin squares, symmetric designs, Steiner systems, and tournament designs.

S0602 Special Topics in Algebra (3/3) Various topics in algebra, such as homological algebra, representations of finite groups and characters.
S0631 Fractal Geometry (3/3) Hausdorff measure and dimension, alternative definitions of dimension, techniques for calculating dimensions.

S0632 Hyperspace Theory (3/3) Various topologies on spaces whose elements are certain subsets of a given underlying space are studied.

S0686 Commutative Algebra (3/3) Various topics in commutative rings, including Noetherian, Artinian rings and modules, localization, primary decomposition, Hilbert Nullstellensatz, integral extensions and valuations, analysis of Dedekind domains.

Mathematical Statistics

M0115 Multivariate Analysis (3/3) Multivariate normal distribution, inferences about multivariate means and linear models, principal components, factor analysis, discrimination and classification, clustering.

M0202 Quality Control (3/3) Importance of quality control, early history, Deming's philosophy, process thinking, improving a process, the seven basic tools, control charts for means, ranges, individuals, proportions and counts, design of experiments, factorial, fictional factorial and screening designs.

S0061 Reliability Analysis (3/3) Censoring and statistical methods, life table and graphs, inference procedures for distributions of exponential, Weibull, extreme-value and other models, parametric regression models, proportional hazards and related regression models, nonparametric methods, goodness-of-fit tests.

S0075 Statistical Application in Biology (3/3) Generalized linear model, categorical data analysis, survival analysis, nonparametric methods, with applications in various areas of biostatistics.

S0231 Advanced Mathematical Statistics (3/3) Probability theory, transformations and expectations, common families of distributions, multiple random variables, properties of a random sample, principles of data reduction, point estimation, hypothesis testing, interval estimation, decision theory.

S0233 Advanced Probability (3/3) Topics includes random walks, probability theory, random variables independence, expectation, convergence, limit theorems, conditional expectation, Martingales.

S0264 Time Series (3/3) Autocorrelation function, stationary models, nonstationary models, seasonal models, transfer function models, intervention models.

S0269 Statistical Methods (3/3) Regression analysis, analysis of frequencies variable, introduction to time series data, CR and RCB designs, nest design, factorial experiment.

S0295 Nonparametric Statistics (3/3) This course covers the important theoretical foundations of nonparametric statistics, both classical and current.

S0408 Experimental Designs (3/3) Factorial treatment designs, random and mixed models, complete block designs, incomplete block designs, fractional factorial designs, split-plot designs, repeated measure designs, cross-over designs.

S0441 Linear Statistical Models (3/3) This course covers the general linear model, generalized linear model, with basic concepts, theorems, and applications.

Teaching Mathematics


S0847 Teaching Plans for Statistics (3/0) This course first gives a general picture of what statistics can do for us with emphasis on concepts, then discusses how to effectively teach some statistics topics appearing in middle school level textbooks.

S0850 Study on Algebra for Middle School Mathematics (0/3) This course covers various topics related to middle school level mathematics in number theory, linear algebra, and abstract algebra. The curriculum includes congruence, Chinese remainder theorem, polynomial, vector space, and matrix algebra. Some teaching designs and skills in the area of algebra will also be addressed.

Ph.D. Program

E1197 Dynamic Systems (3/3) Diffeomorphisms and flows, stable manifold, center manifold, normal form, versal deformation.

S0137 Functional Analysis (3/3) Topological vector spaces, local convexity, completeness, convexity, duality, Banach algebras, Gelfand-Naimark theory, the spectral theorem.

S0427 Number Theory (3/3) Algebraic integers, quadratic and cyclotomic fields, class-group and class-number, p-adic numbers, Zeta and L-functions.

S0590 Nonlinear Functional Analysis (3/3) Basic problems of the theory of non-expansive mappings in Banach spaces, fixed point theorems and convergence of successive approximations.

S0591 Linear Integral Equations (3/3) Basic existence theorem, integral equations with L2 kernels, applications to partial differential equations, Fourier transforms, the Fredholm theory.

S0593 Smooth Dynamic Systems (3/3) Diffeomorphisms, flows, invariant manifold, transversality, generic properties, structural stability.

S0594 Nonparametric Regression (3/3) Theorems, methods, and applications of kernel regression procedure.
DEPARTMENT OF PHYSICS

Degrees Offered: B.Sc., M.S., Ph.D.

Chair: Zhou, Zicong (周子聰)

The Department

Established in 1963, the Department of Physics offers systematic programs to those who wish to pursue careers as scientists or engineers. We offer B.Sc., M.S., and Ph.D. degrees. In order to prepare students for a successful career in a highly competitive world of high-tech, we offer curricula which place emphasis on the application of basic theories and extensive trainings in information technology and foreign languages.

The faculty members of the Department of Physics conduct research on a vast variety of topics, including theoretical and computational physics, optoelectronics, materials synthesis and characterizations, synchrotron radiation-related researches, and nanoscience.

Faculty

Professors
Chen, Wai-ching (陳偉正); Chang, Henry C. L. (張經霖); Chen, Chun-nan (陳俊男);
Chien, Fan-z (錢凡之); Cho, Hing-tong (曹慶堂); Ho, Choon-lin (何俊麟); Lin, Jenn-an (林震安);
Lin, I-nan (林諭男); Pong, Way-faung (彭維銘); Tseng, Wen-jer (曾文哲); Zhou, Zicong (周子聰)

Associate Professors
Chen, Jiing-yann (陳憬燕); Chen, Wuu-ben (陳武斌); Du, Chao-hung (杜昭宏);
Hsueh, Hung-chung (薛宏中); Jen, Jen-yi (鄭振益); Lee, Ming-hsien (李明憲);
Ling, Dah-chin (林大欽); Liu, Kwok-on (廖國安); Shiau, Shiow-meei (蕭秀美);
Tang, Chen-yau (唐建堯); Wang, Shang Yung (王尚勇)

Assistant Professors
Chin, Yi-nan (秦一男); Ho, Chang-ming (何昌明); Liu, Guo-chin(劉國欽);
Yang, Shu-chun(楊淑君); Yeh Ping-hung(葉炳宏)

Degree Requirements

The Department of Physics offers two programs at the undergraduate level: the Electro-optical Physics Program and the Applied Physics Program.

1. Requirements for a degree of B.Sc. in Electro-optical Physics:
Completion of 133 credits of courses, including 101 credits of required courses and 20 credits of elective physics courses.

2. Requirements for a degree of B.Sc. in Applied Physics:
Completion of 133 credits of courses, including 101 credits of required courses and 20 credits of elective physics courses.

3. Requirements for a Master's degree in Science:
Completion of 26 credits of courses, including 15 credits of required courses. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

4. Requirements for a degree of Ph.D. in Science:
Completion of 18 credits of courses, including 6 credits of required courses. Students are required to pass a qualifying examination within the first two years, publish at least one research paper in any journal listed in Science Citation Index, submit a written doctoral dissertation completed under the supervision of a faculty member, and pass an oral examination.
Course Descriptions

Undergraduate Courses


E0868 Applied Mechanics (II) (0/3) Central-force Motion, Dynamics of a System of Particles, Dynamics of Rigid Body, Coupled Oscillations, Nonlinear Oscillations (optional), Motion in a Noninertial Reference Frame (optional), Continuous Systems (optional).


S0041 Astronomy (0/3) Overview of Universe; Solar System; Inter-Stellar Distance; Properties of Stars; Classification and Evolution; Star Nebulae; Star Cluster, Structure and Classification of Galaxies; Cosmology; Observatories and Telescopes.


S0082 Optical Electronics (3/0) The Lecture about the Semiconductor laser, light emit diode, detector and optical fibre.


S0125 Solid State Physics (3/0)/ S0127 Solid State Physics (II) (0/3) Crystal Structure; Reciprocal Lattice; Crystal Binding; Phonon; Free Electron Fermi Gas; Energy Bands; Semiconductor Crystals; Superconductivity; Dielectrics and Ferroelectrics; Diamagnetism and Paramagnetism; Ferromagnetism and Antiferromagnetism; Magnetic Resonance.

S0127 Solid State Physics (II) (0/3) Crystal Structure; Reciprocal Lattice; Crystal Binding; Phonon; Free Electron Fermi Gas; Energy Bands; Semiconductor Crystals; Superconductivity; Dielectrics and Ferroelectrics; Diamagnetism and Paramagnetism; Ferromagnetism and Antiferromagnetism; Magnetic Resonance.

S0152 Mathematical Physics (3/3) Ordinary Differential Equations, First-Order Differential


**S0249 Fundamental Applied Mathematics (0/3)** Elementary partial differentiation and total differentiation. Multiple Integrals, Vector Calculus--The Directional Derivative, Gradient, Divergence, Curl, Line integral, Surface integral, Volume integral, Gauss’ Theorem, Stokes’ Theorem, Orthogonal Curvilinear Coordinates, Linear first-order, second-order Differential Equation, Simple Partial Differential Equation.


**S0338 Electromagnetism (3/3)** Electrostatic field, magnetostatic fields, boundary layer problems, material media, electromagnetic waves and radiation.

**S0339 Electromagnetism Laboratory (1/1)** Electronic Components Identification and basic circuits operations: Multi-meter operations and Basic DC circuits, Oscilloscope Operation, Function Generator Operations, RC circuits, RL circuits, RLC circuits, Diode properties, Rectifier circuits and Voltage doublers, Clipping Circuits and Clamping Circuits, Transistors I--The NPN Transistor as a Digital Switch.

**S0372 Microwave Physics (0/3)** This course aims to demonstrate the application of electromagnetic waves in microwave communication systems. Based on the theory of electromagnetic wave, we will discuss transmission line theory and transmission line structure, followed by the design theory on the impedance matching, microwave resonator, power divider and directional coupler, and microwave fillers. In the last part of the course, microwave systems combining all the above-mentioned microwave passive devices will be briefly introduced.


**S0375 Digital Electronics Laboratory (1/1)** Introduction of instruments, Experiment on basic logic gates, Experiment on combined logic systems, LED digital display-devices and its applications, Flip-Flop IC circuits, Up-counter and down-counter and its applications, Experiment on circuits of coder and decoder, Shift-register and its applications, Comparators and its applications, Arithmetic logic circuits, Multiplex electronic system (Multiplexer), De-multiplex electronic system (De-multiplexer), Introduction to the course and the instruments, I/O (input / output) interface lay on and test.
Programming with C-language for I/O interface, Experiment on a sequential (series) logic system, Experiment on a simulated electronic dice, A simulation of controlled traffic signals (communications), Keyboard scanning and display system, Two-colors dot LED matrix.


S0399 Computational Materials Physics (3/0) 3D GUI and Materials Studio Introduction More 3D functions and model building, Crystal Structures, ICSD and CSD, Density Functional Theory - Methodology and Application, Atomic Orbits and Chemical bonds, Bond length, vibration frequency, lattice parameter and bulk modulus, Band Structure theory, semiconductor, insulator and metal, magnetic properties of materials (VCA), Phonon Spectra, specific heat calculation and phase transition temperature, electronic spectra, refractivity and dielectric function, IR absorption and static dielectric function, NMR and atomic structure, surface reconstruction, workfunction and STM image, Chemical reaction, activation barrier and free energy (Molecular dynamics).


S0553 Optics Laboratory (1/0) Polarization, Fresnel Diffraction, Self-Imaging, Fraunhofer Diffraction, Faraday Rotation, Holography, Acoustooptical Modulation, Fiber Optics.

S0583 Quantum Mechanics (II) (0/3) Angular Momentum Algebra, Addition of Angular Momenta, Identical Particle Effect, One Dimensional Periodic Quantum Systems, Introduction to Quantum Statistical Mechanics, Time-independent Perturbation Theory, Fine Structure, WKB Approximation,
Variational Principle, Aharonov-Bohm Effect, Quantum Transition.

S0596 Partial Physics (3/0) This course provides a qualitative introduction to modern elementary particle physics for seniors. Topics include: elementary particles and their interactions, relativistic kinematics, symmetries and conservation laws, the quark model, neutrinos and the weak interaction, CP-violation, and the standard model and beyond.

S0599 Physics of Materials (0/3) Structure, Lattice, Crystal structure, Reciprocal space, Bonding, X-ray diffraction, Lattice distortion.


S0654 Photonic Crystal (3/0) Fundamentals of photonic crystals, wave propagation in nonuniform dielectric media, wave propagation in periodic dielectric media, numerical method for photonic crystals, propagation and abnormal refractive in photonic crystals, design and fabrication of photonic crystals, application of photonic crystals.


S0703 Computational Physics (0/3) One order to high order ordinary differential equations; partial differential equations and boundary value problems; wave phenomena and fast Fourier transform; matrix calculations and eigenvalues problems; numerical integration; Monte Carlo method, molecular dynamics simulation.

S0704 Electronics Laboratory (1/1) Diode Characteristics, Rectifier Circuits, Zener Regulator Circuits, Transistor Biasing and Transistor Characteristics, Establish a Stable Operating Point By-pass Capacitor and Incremental Resistance, CE Amplifier Circuits, Emitter Follower Circuit MOSFET Characteristics, MOSFET Amplifier Circuits, Differential Amplifiers, Operational Amplifiers.


S0744 The Special and General Theory of Relativity (3/0) The Principle of Relativity, 4-Vector and Tensor; Christoffel symbol, geodesic, Ricci tensor, Einstein's law, Newtonian approximation, Schwarzschild solution, gravitational red shift, deflection of light by the Sun, precession of perihelia, black hole, gravitational wave, Cosmology.

S0770 Introduction to Opto-Electric System (0/3) Semiconductors and their optical properties, Light emitted diode (LED), Solar cells, The fundamental of a Laser, Optical fiber, Liquid crystal display (LCD), Plasma display panel (PDP), Holography, DVD and DVD players, other systems.


S0829 Introduction to Quantum Information and Quantum Computations (0/3) Principles of Quantum Mechanics, Quantum Cryptography, Quantum Teleportation, Quantum Computations, Experimental realizations.

S0835 Mathematical Methods for Physics (I) (3/0) Probability, More on Special functions, Linear algebra (linear operators and Hilbert space).

S0836 Mechanics (II) (0/3) Central-force Motion, Dynamics of a System of Particles, Dynamics of Rigid Body, Coupled Oscillations, Nonlinear Oscillations (optional), Motion in a Noninertial
S0837 Mathematical Methods for Physics (II) (0/3) Tensor analysis and differential geometry, Group theory, Green's functions, Variation.

S0838 Principle of Fiber Optics (3/0) (1) the principle of optical-fiber optics: Snell’s law, total internal reflection, graded index rod lens, fiber optics, numerical aperture, line-width and band-width, material dispersion, wave-guide dispersion, modal distortion, maximum allowable modulation frequency, and integrated optics. (2) the principle of optical-fiber systems: optical-fiber network, LAN network, FDDI network, CATV network, and the analog and digital network of optical-fiber.

S0150 Special Topics in Physics (1/1) In the 4th year, we provide students the opportunity to do actual research on a variety of active subject areas in our department. Students will obtain the ability to analyze and solve the realistic problems as well as trained physicists. Furthermore, frontiers in different physics fields will also be highlighted in this course.

T0136 Special Topic Research (1/1)

Master's Program


S0073 Biophysics (0/3) Chemical binding and structure of biomolecules, energies, forces and bonds, rates of reaction, entropy, temperature and free energy, entropic force, conformational and mechanical properties of biopolymers, biological membranes, molecular motors, gene and genome.


S0630 Introduction of Synchrotron Radiation (3/0) This lecture gives a description of the x-rays produced by the synchrotron radiation source and its applications on the modern material research.

S0728 X-Ray Physics (3/0) The properties of x-rays, and the interaction of x-rays with matter, including the absorption spectra, emission spectra, and scattering.


S0786 Solid State Materials (3/0) This course introduces the basic principle of ceramic materials. We start with the structure of ceramics (especially the perovskite and spinel structures) and their mechanism for producing ferroelectric and magnetic properties of the materials; then we discuss the defect in ceramics and the mechanism for producing the semiconductivity of the materials. Also included in the course are mass and electrical transport of ceramics and the related mechanism for producing electrochemical properties, phase equilibria and the kinetics, and microstructure and its effect on physical properties.

S0795 Physics of Nano-materials and their application (0/3) This course introduces nanotechnology and its potential application; we start with the general characteristics of nano-materials and their application, followed by description of the structure of nanomaterials; characterization technology for nano-materials, including scanning tunneling microscopy and transmission electron microscopy; and fabrication & properties of the nano-materials, that include (a) zero dimension materials and application, such as quantum dot semiconductors, single electron transistor; (b) one dimension nano-materials, such as carbon nanotubes, ZnO-nanowires; and (c) two one dimension nano-materials, such as quantum well semiconductors, graphene.

S0802 Electroceramics (0/3) This course introduces the physical properties and application potential of ceramic materials; we start with the structure of materials and the mechanism that produces the dielectric, semiconducting, ferroelectric, pyroelectric, piezoelectric and magnetic properties, followed by the introduction of typical dielectric, semiconducting, ferroelectric, pyroelectric, piezoelectric and magnetic material system and possible device application.

S0811 Transmission Electron Microscopy: Principle and Application (0/3) This course introduces the principle of electron microscopy and its application for materials analysis. We start with the introduction on the structure and operation principle of TEM before we move to discuss the principle of electron diffraction and its application for analyzing the materials structure, including Ewald sphere and rel-rod of diffraction spots. Other topics are kinetic and dynamic theory for image formation in TEM, including the analysis of defects in materials, phase contrast principle, and the principle for chemical analysis in TEM, including the X-ray spectroscopy and electron energy-loss spectroscopy.

T0102 Seminar (2/2)
T8000 MS Thesis (4)

Ph.D. Program

E2844 Special Topics in Solid State Physics (3/0) Spin waves in magnetic insulators, superfluidity in a weakly interacting Bose gas, Laudau’s theory of Fermi liquids, Bardeen-Cooper-Schrieffer theory of superconductivity, the Mott metal-insulator transition and the Hubbard model, $t$-$J$ model in 2 dimensions and cuprate superconductor, the Kondo effects, disordered conductors and Anderson localization, the integer and fractional quantum Hall effects.


S0526 Mathematical Physics (II) (0/3) Partial Differential Equation, Eigenfunctions and Green's

**S0569 Electrodynamics (II) (0/3)** Scattering, and Diffraction, Magnetohydrodynamics and Plasma Physics, Special Theory of Relativity, Dynamics of Relativistic Particles and Electromagnetic Fields, Collisions between Charged Particles, Energy Loss, and Scattering, Radiation by Moving Charges, Bremsstrahlung, Method of Virtual Quanta, Radiative Beta Processes, Multipole Fields, Radiation Damping, Self-Fields of a Particle, Scattering and Absorption of Radiation by a Bound System.

**T0096 Seminar (II) (2/2)**

**T8000 Thesis (6)**
DEPARTMENT OF CHEMISTRY

Degrees Offered: M.S., Ph.D.

Chair: Wu, Chia-li (吳嘉麗)

The Department

The Department of Chemistry was established in 1958, and began to offer separate degrees in pure chemistry and applied chemistry in 1973. In 2003, the Department officially set up two divisions: Biochemistry and Material Chemistry. The Department is located in, and is the sole occupant of, Chung-Ling Chemistry Hall, which was built in 1999 and includes a library, laboratories, classrooms, and a precision instrument center. Provided with these excellent facilities, students have the opportunity to obtain hands-on experiences with modern equipment. Moreover, the low student faculty ratio allows for closer student-teacher interactions, better student guidance, and more research opportunities.

The MS and Ph.D. programs in chemistry were established in 1971 and 1975, respectively. The goal of both programs is to provide each graduate with the intellectual background, laboratory skills, and research experience necessary to ensure success in his or her future scientific endeavors. Hence, faculty members are engaged in research projects, encompassing all of the major disciplines of chemistry with special emphasis on material chemistry and biochemistry. Meanwhile, students are encouraged to participate in any of the many research programs. Therefore, many graduates hold competitive positions at universities, private industry, and government laboratories across the nation and around the world.

Faculty

Professor Emeritus
Lin, Yun-shan (林雲山)

Professors
Chen, Kan-nan (陳幹男); Chien, Su-fang (簡素芳); Kao, Huey-chuen (高惠春);
Lee, Shih-yuan (李世元); Lin, Jyh-shing (林志興); Lin, Meng-shan (林孟山);
Sye, Wen-fa (薛文發); Wang, Bo-cheng (王伯昌); Wang, Chi-ming (王啟銘);
Wang, Wen-jwu (王文竹); Wang, San-lang (王三郎)

Associate Professors
Chen, Yau-hung (陳耀鴻); Lee, Jung-si (李榮熹); Shih, Tzenge-lien (施增廉);

Assistant Professors
Chen, Ming-kai (陳銘凱); Chuang, Tzu-chao (莊子超); Lee, Chang-shin (李長欣);
Wu, Chun-hung (吳俊弘); Deng, Jin-pei (鄧金培); Pan, Po-Shen (潘伯申);
Hsieh, Jen-Chieh (謝仁傑)

Degree Requirements

The Department of Chemistry offers two programs at the undergraduate level, namely the Biochemistry and Material Chemistry Program.

1. Requirements for a degree of B.Sc. in Biochemistry:
   Completion of 134 credits of courses, including 108 credits of required courses and 18 credits of elective chemistry courses.

2. Requirements for a degree of B.Sc. in Material Chemistry:
   Completion of 134 credits of courses, including 108 credits of required courses and 18 credits of
elective chemistry courses.
3. Requirements for a Master's degree in Science:
Completion of 28 credits of courses, including 16 credits of required courses and 4 credits of Seminar. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

4. Requirements for a degree of Ph.D. in Science:
Completion of 26 credits of courses, including 19 credits of required courses and 4 credits of Seminar. Students are also required to pass a qualifying examination within the first three years, publish at least two research papers in any journal listed in Science Citation Index, submit a written doctoral dissertation completed under the supervision of a faculty member, and pass an oral examination.

Course Descriptions

Undergraduate Courses

**E0182 Material Science (0/3)** Introduction to basic concepts of the fabrication and structure-property relationship of materials, covering Ceramics, Polymers, Porous Materials, Electrical and Magnetic Materials, Supramolecular and Nano Materials, etc.


**S0018 Special Topics in Analytical Chemistry (3/0)** This course provides a comprehensive coverage of the fundamentals of electrochemical methods and modern applications.

**S0068 Biochemistry (3/3)** Molecular design of life, Protein conformation, dynamics and function, metabolic energy, biosynthesis of macromolecules, gene replication and expression.

**S0071 Biochemistry Laboratory (0/1)** SDS Polyacrylamiae Gel Electrophoresis, Protein Determination, Determination for Enzyme Activity, HPLC for Sugar Analysis, TLC for Brain Glycosphingolipids, Hemagglutination, Enzymic Conversion for "B" RBC into "O" RBC Polymerization Chain Reaction Experiment.

**S0076 Biology (3/3)** Molecular biology of gene, gene regulation, DNA technology, blood, immune system, hormone, nervous system.

**S0108 Organic Chemistry (3/3)** Structure and bindings, spectroscopy, alkanes, alkynes, alcohols.

**S0111 Organic Chemistry Laboratory (1/1)** Separation and purification of organic compounds, Reaction of alcohols, Preparation of cyclohexanol, Nitritation of aniline: use a protecting group.

**S0113 Organic Reaction Mechanism (3/0)** Principles of stereochemistry, conformational, steric, and stereoelectronic effect, SN1, SN2, polar and elimination reaction of carbonyl cpds, aromaticity, aromatic substitution, controlled pericyclic reaction.

**S0115 Organic Spectroscopy (0/3)** Identification of organic compounds by spectral analysis, including proton and C-13 NMR, mass spectra, UV spectra, IR spectra.

**S0116 Organic Synthesis (3/0)** Functional group transformation, Carbon-carbon formation, Oxidation, Reduction, Organometallic reagents and application, Pericyclic reaction.

**S0143 Physical Chemistry (3/3)** Quantum chemistry, thermodynamics, Kinetics.

**S0147 Special Topics in Physical Chemistry (3/0)** Laws of thermodynamics, Joule expt., Joule-Thomson expt., entropy, heat capacity, Free energy A and G, temperature era, statistical Thermodynamics, partition function, equipartition theory, Einstein solid, Debye solid.
S0148 Physical Chemistry Laboratory (1/1)  Intrinsic viscosity, Transference number, Cryoscopic determination of molecular weight, Chemical equilibrium, Heat of combustion, Binary liquid-vapor phase diagram, Ionic strength effect.

S0178 Food Chemistry (3/0)  Protein chemistry, Carbohydrate chemistry, lipid chemistry, Vitamin and cofactors, Milk products, Browning reaction, Food microbiology.


S0288 General Chemistry (3/3)  Atomic structure, Chemical bonding, Molecular structure, Chemical kinetics, Chemical thermodynamics.

S0289 General Chemistry Laboratory (1/1)  The following experiments have been designed to train the students in the related experimental techniques: preparation of soaps, synthesis of aspirin, ions analysis, the study of chemical equilibrium, DNA agarose gel electrophoresis, preparation of high-Tc superconductor, electrogravimetric analysis, chemical cells, preparation of buffer solutions, ion exchange chromatography, COD, DO, Karl Fischer analysis, volumetric titrations including acid-base titration, precipitation titration, complex formation titration, and oxidation/reduction titration.

S0297 Inorganic Chemistry (3/3)  Atomic structure, Solid-state chemistry, Chemical bonding, Coordination chemistry, Organometallic chemistry, Acid-base and solution chemistry, Group theory.

S0299 Special Topics in Inorganic Chemistry (3/0)  Conformation and stereochemistry, Nucleophilic substitution and electrophilic substitution, Cycloaddition and rearrangement, Organometallic reactions, Reactions of carbonyl compounds, Peptide synthesis, Radical reactions.

S0299 Special Topics in Inorganic Chemistry (0/3)  Quantization and Schrodinger equation, One particle in a box and its applications, Huckel theory and its applications, extended Huckel theory and its applications, Ab initio computational methods.

S0311 Quantum Chemistry (3/0)  Schrodinger equation, Quantum mechanics, Particle in a box, Symmetry, Molecular orbitals.

S0324 Microbiology (0/3)  Bacteria, Fungus and diseases, Virus and cancer, Immunity, Bacterial growth and control, Industrial microbiology.

S0416 Instrumental Analysis Laboratory (1/1)  The Application of AA, IR, GC, UV-VIS, HPLC, NMR, and MS.


S0454 Biosensors and Bioelectronics (0/3)  This course focuses on Biosensor, a specially designed measurement tool with an inherited specificity from bio-component suitable for the measurement of a particular target from a complex sample such as blood or environmental samples.

S0456 Special Topics in Biochemistry (3/0)  Selected topics in cells, enzyme, proteins, lipids, carbohydrate chemistry, biological membrane, glycoconjugates and their functions.

S0573 Special Topics in Analytical Chemistry (3/0)  An introduction to chromatographic separations: band broadening and column efficiency, van Deemter equation, gas chromatography, high performance liquid chromatography and supercritical fluid chromatography (SFC).

S0585 Special Topics in Polymer Chemistry (3/0)  Selected topics in manufacture, properties, and application of natural and synthetic rubbers, Processing techniques of rubbers, Testing of uncured and cured rubbers, Compounding ingredients of rubber compounds.
S0650 Special Topics in Organic Chemistry (3/0) Conformation and stereochemistry, Nucleophilic substitution and electrophilic substitution, Cycloaddition and rearrangement, Organometallic reaction, Reactions of carbonyl compounds, Peptide synthesis, Radical reactions.

S0708 Chemical Applications in Group Theory (3/0) Molecular Symmetry, Symmetry Group, Representations of Groups, Group Theory & Quantum Mechanics Symmetry-Adapted Linear Combinations, Ligand Field Theory, Molecular Vibrations, Molecular Electronic Structure, Molecular Orbital Theory

S0709 Genetic Engineering (0/3) The Basic Principles of Gene Cloning and DNA Analysis: Restriction Enzymes, Recombinant Vectors Transformation, Screening, Polymerization Chain Reaction, Gene Sequencing, DNA Purification and Gene Expression.

S0729 Applications of Chemistry (2/0) Hydrogen bonding, Roles of carbon, Roles of silicon, Life science, Electronics, Optoelectronics, Material science.

S0736 Spectroscopy of Molecules (0/3) Review of quantum mechanics (Particle in a Box, Rigid Rotor and Harmonic Oscillator), Transition Probability, UV-vis—IR, vibronic, Franck-Condon Principle, Rotation-vibration, PQR branches, Symmetry and Spectroscopy.

S0777 Molecular Biology (0/3) The central dogma: replication, transcription and translation, DNA structure and stability, The dynamic genome, The recombinant DNA and Nucleic acid technology, Bacteriophage, plasmid and transposable elements, Protein engineering, Human genetics, Program cell death, Oncogenes & Tumor suppressor genes.

S0781 Introduction to Biology (0/3) Cell life, Cellular reproduction and genetics, Concepts of animal structure and function, Concepts of plant structure and function.


S0793 Material Chemistry Laboratory (1/0) Preparation and characterization of organic light-emitting, liquid crystalline, polymeric, porous, nano-, magnetic-, and supra-molecular materials.

T0102 Seminar in Chemistry (1/0) Selected topics for undergraduate students.

T0136 Undergraduate Chemistry Research (1/1) Selected research topics for undergraduates.

Master's Program

S0202 Advanced Analytical Chemistry (3/0) Advanced treatises on theory and applications of UV, IR, Raman, NMR, ESR, Mossbauer, and ESCA GC/MS.

S0209 Advanced Organic Analytical Chemistry (3/0) Elucidation of chemical structures by physical and chemical methods.

S0211 Advanced Organic Chemistry I (3/0) Chemical bonding, molecular structure and orbitals, stereo chemistry and conformation analysis, linear free energy relationship, kinetic isotope effects.

S0212 Advanced Organic Chemistry II (0/3) Photochemistry, Free radical reaction, Carbanions, Carbonium and reaction mechanism.

S0223 Advanced Physical Chemistry I (3/0) Quantum chemistry, applying group theory, introduction of spectroscopy.

S0224 Advanced Physical Chemistry II (0/3) Chemical kinetics and therm statistics.

S0226/S0227 Advanced Inorganic Chemistry I/II (3/3) Symmetry group is of great importance in chemical applications generally. This course will include the essential mathematics of group theory. The applications of group theory to chemical bonding, stereochemistry, spectroscopy, and symmetry-
controlled chemical reaction will be covered.

S0506/S0724 Advanced Biochemistry I/II (3/3) Latest development in biochemistry and their applications.

S0674/S0696 Advanced Analytical Chemistry I/II (3/3) An introduction to Chromatographic separations, gas chromatography, high-performance liquid chromatography, supercritical fluid chromatography and extraction, capillary electrophoresis and capillary electrochromatography.

S0851/S0852/S0853 Advanced Life Science I/II/III (3/3) This course introduces the basic concepts of cell-cell interaction, early development, late development, and organogenesis. This course will make graduate students understand the mystery of life.

T0095/T0096 Seminars in Chemistry (2/2) Selected topics for graduate students.

T1002/T1003 Seminar in Chemistry (2/2) Discussion of current topics in all fields of chemistry.

T8000 MS Thesis (0/4)

Ph.D. Program

S0124 Solid State Chemistry (3/0) This course introduces crystal structure, bonding in solids, X-ray diffraction, materials characterization, phase diagram, electrical properties, and magnetic properties to graduate students.

S0213 Advanced Organic Synthesis (0/3) The synthesis of organic compounds, with emphasis on modern reagent and methods, Application of Umpolung to organic syntheses.

S0214 Special Topics in Advanced Organic Chemistry (0/3) Advanced treatises on photochemistry, free radical reaction, carbanions, and carbonium and reaction mechanism.

S0219 Special Topics in Advanced Physical Chemistry I (3/0) Statistical thermal dynamics, application of theoretical methods in chemistry, application of quantum chemistry in molecules.

S0222 Special Topics in Advanced Physical Chemistry IV (0/3) Liquid Crystal, anisotropy of physical properties, material: thermotropic low molar mass, thermotropic polymer, lyotropic, Rod-like, Disc-like, Bowl-like, banana, phase structure: nematic, smectic, chiral, columnar, calamitic, banana, Theory of nematic and smectic phases, order parameter, ferroelectric LC, antiferroelectric LC, TGB phase, application of LC, TN, STN, FLC, PDLC.

S0229 Special Topics in Advanced Inorganic Chemistry II (0/3) Supramolecules and molecular nanotechnology of transition metal complexes, Biological inorganic chemistry.


S0219 Special Topics in Advanced Physical Chemistry I (0/3) Crystal chemistry, bonding in solids, materials characterization, physical and chemical properties of materials, preparation of materials.

S0706 Special Topics in Advanced Physical Chemistry II (0/3) NMR theory, spin dynamics, relaxation dynamics, NOE.

S0706 Special Topics in Advanced Physical Chemistry II (0/3) Nuclear spin dynamics.

S0710 Organometallic Chemistry (3/0) Organometallic chemistry: basic concepts about coordination compounds, ligands, reactions, characterizations, catalysis, metathesis and polymerization, applications to organic synthesis, clusters, applications in chemical vapor deposition, bioorganometallic chemistry.

S0808 Protein NMR technique (0/3) Nuclear spin, Pulsed FT NMR, NOE, Protein NMR structure, Protein MR dynamics.
T0096 Doctoral Seminar (2/2)

T8000 Doctoral Dissertation (4)
COLLEGE OF ENGINEERING
COLLEGE OF ENGINEERING

Dean: Ho, Chii-dong (何啓東)

Brief History

Since its establishment in 1966 as the Division of Engineering, the College of Engineering has undertaken the mission of training intellectual engineers. It was fully developed as a college in 1980.

The period between 1980 and 1996 was the initial stage of the College of Engineering, during which its steady development was made possible by the support of the University. This stage witnessed the growth of the faculty, the completion of the Engineering Building, and the development of modern computer networks. The College continues to conduct curriculum reform and promote academic research and exchanges. The College of Engineering has been the cradle of elite engineers nationwide.

Established for more than four decades, the College of Engineering has developed into a sizable school. Among its 151 faculty members, 147 hold a doctoral degree, which takes up 97.4% of the entire faculty population in the College. There are currently 5,818 students enrolled in the College, making it number one in student enrolment among all the colleges at Tamkang University.

There are eight departments in the College of Engineering, including the Departments of Architecture, Civil Engineering, Water Resources & Environmental Engineering, Mechanical & Electro-Mechanical Engineering, Chemical and Materials Engineering, Electrical Engineering, Computer Science & Information Engineering, and Aerospace Engineering. All the eight departments offer Master’s programs. The Departments of Civil Engineering, Water-Resources and Environmental Engineering, Computer Science and Information Engineering, Chemical and Materials Engineering, Mechanical and Electro-Mechanical Engineering, and Electrical Engineering also offer doctoral programs. There are more than 70 laboratories in the College. In addition, the College takes pride in its modern instruments and facilities, multi-media classrooms, and the Computer-Assisted Engineering (CAE) Lab. These facilities have proved highly effective in helping students’ learning and research.

In ESI’s worldwide ranking in the period between 1998 and 2008, many universities in the Chinese-speaking communities, namely Taiwan, China, Hong Kong, and Singapore, were on the list. Among them, 31 were in Taiwan, and Tamkang University was listed in the engineering category.

The eight departments in the College of Engineering were officially accredited by the Institute of Engineering Education Taiwan in the years between 2005 and 2007. All the 8 departments and 10 graduate programs in the College of Engineering have been accredited by IEET (a full signatory of the Washington Accord). It will undoubtedly increase our students’ competitiveness in the workplace.

Motto and Goals

Teaching First. Research Lead.

Directions for Future Development

1. Recruiting international scholars to offer short-term courses and promoting English instruction at graduate levels.

2. Recruiting eminent professors to offer courses and to conduct research so as to motivate research studies and to promote research studies to a higher level.

3. Putting each department’s five-year-term recruiting plan into action and increasing both the quality and the number of full-time faculty members.

4. Promoting the five-year-term project, focusing research and development on the fields of robot and wind engineering.

5. Encouraging cooperation with the industrial sector and formulating policies for awarding cooperative projects.

6. Equal sharing of budget reserved for improving lab facilities and research equipments on a three-year basis so that each department can equally share the fund.

7. Inviting eminent domestic and overseas scholars to offer intensive courses or cooperative research projects and encouraging outstanding faculty members to deliver lectures or research at prestigious
organizations or universities.

8. Promoting cross-strait academic and technological research and exchanges and scheduling faculty and students to visit well-known universities in China to realize TKU’s goals of globalization and future-oriented education.

Future Perspectives

The College of Engineering will maintain its academic merit and work on establishing a solid foundation for future development and will promote an even higher level of teaching and research. Faculty members in the College of Engineering have considerable potential. Sufficient support and resources from the school might help realize the full potential of the College of Engineering, which in turn can be a crucial factor in support of Tamkang University as an academic kingdom.

Course Descriptions

E0033 Engineering and Environment (0/2) Major environmental issues facing modern engineering are addressed in this class. The content of this class includes global environmental issues, environmental impact assessment practice, an introduction of ISO14000 environmental management system, green design, green engineering, ecological engineering and green architecture.

E0424 Advanced Engineering Mathematics (2/0) This course prepares students for the three classes of linear second-order partial differential equations, elliptic, parabolic, hyperbolic and the three types of boundary conditions, Dirichlet, Neumann, and Robin. Additionally, it gives a thorough discussion of the separation of variables technique, a coverage of the relevant theorems of Fourier series and an introduction to the Sturm-Liouville boundary value problem.

E0959 Advanced Fluid Mechanics (2/0) Viscous flows of incompressible fluids, General properties of Navier-Stokes equations, Exact solutions of the full N-S equations, Low-Reynolds number flow, High-Reynolds number flow, Boundary layer equations for incompressible flow, Exact and Approximate solutions of the boundary layer equations, Boundary layer separation, Boundary layer control.

E0182 Materials Science (2/0) This course is the common subject for the engineering college. It aims at those undergraduate students who are interested in Materials Science. In these days, with the prosperity of high-technology, material problems are also usually the bottlenecks of various technical developments. Therefore, being aware of materials is the first step to solve scientific problems. This class primarily introduces the basic and application of Material Science. It intends to give a basic learner fundamental concepts and avoids too many complicated theories and details.

E1402 Engineering Ethics (2/0) To increase interactions between engineers and related professional fields in a contemporary environment, engineering ethics has attracted an increasing concern in the value dimension of engineering throughout the training program of engineering education in university. This course is intended to equip engineering students with a better ability to make ethical decisions about creating and marketing new technologies in their future professional work.

E1670 Topics on Micro-Electro-Mechanical Systems (2/0) This course introduces how this newly developed technology links both the macroscopic world and the nanoscaled matters. The contents in this course include brief descriptions of semiconductor processing, silicon micromachinings, non-silicon micromachinings, low temperature (polymer MEMS) process, micro-sensors, micro-actuators, microfluidics, and BioMEMS applications.

E1679 Introduction of ARTIFICIAL Neural Network (0/2) This course introduces the application of neural network using Neural Network Toolbox 4.0 in MATLAB 6.1. The configuration of neural network includes single-layer, multilayer, radial basis function, self-organized and recurrent neural networks. Various learning algorithms, e.g., back-propagation, 1st order gradient descent, 2nd order gradient descent, are also introduced.

E2267 Reliability and Risk Analyses (0/2) Failure concepts, fault tree analysis, reliability block
diagrams, system structure analysis, risk concepts, risk criteria, risk assessment, risk assessment techniques, probabilistic risk assessment, uncertainty, risk characterization with logic tree.

**E2638 Introduction to Energy Engineering (0/2)** This course offers an introduction to the use of energy in the society and the importance of a rational and efficient usage for both primary and secondary energy conversion. Both depth (the technology) and width (the social perspective) are treated.

**E2725 Chemical and Material Industries and Future Technology Developments (0/2)** This course introduces the applications and future developments of chemical and Materials Engineering technology in various industries such as food, biomedical fine chemicals, semi-conductor thin film transistor.

**E2727 Aerospace Industry of the 21st Century (2/0)** This course introduces the 21st century aero industry of Taiwan, which includes the national strategy of aero industry, different government offices for aero industry development, current status of Taiwan Aero Industry, Current Status of World Aero Industry and Future Development of Taiwan Aero Industry.

**E2728 The Future and Development of the Integration for Information and Communication (0/2)**
This course introduces the basic IT concept, architecture of communication, application of information and communication. Some case studies for CMMI, Software Development Procedure, Peer to Peer Technology, Call Center Application, Wireless and Digital Live, and VoIP are included as well.

**E2730 Study of High Tech Patents (0/2)** This course gives a brief introduction on how to obtain a patent, including patent searching, patent map, patent value, and patent writing. Additionally, the course provides the basic concepts to those who invent or discover any new and useful process, machine, manufacture or composition of matter.

**E2887 Programming Embedded Systems (0/3)** This course covers the following topics: Introduction to Embedded systems, building and running programs for embedded systems, thread synchronization on embedded systems, optimizing embedded software for size, speed and power consumption, and working examples for embedded systems, such as audio/video processing.

**E2949 Architecture Industry Trends in the 21st Century (2/0)** The course covers the development of the architecture industry in the 21st century, including architectural design and planning, building technology, sustainable architecture, environmental issues, landscape and urban design.

**E2950 The Industry Trend Of Me & Eme in the 21st Century (0/2)** This course provides a general introduction to the trend and tendency of some hot industries in the 21st Century. The items included are consumer electronics, information services, telecommunication, as well as mass communication. We will identify the possible threats and opportunities to these industries from the impact of the vicissitudes of politics, economy, society, and technology.

**E2952 Introduction to Preventions for Slope Disasters and Debris Flow (0/2)** This course is intended to provide a comprehensive introduction to preventions of slope disasters and debris flow. The fundamental mechanisms of slope disasters and debris flow are introduced first, and the concepts and methods of countermeasures against associated damages are illustrated by real examples.

**E2953 Introduction and Implementation of Embedded Systems (3/0)** This course introduces the following topics: an overview of embedded systems, the basic operations for Linux programming, the development tool chains, the basic embedded system programming, and hands-on experience on embedded experiment boards with ARM series CPUs.

**E3124 Operation System and Technologies for Natural Hazard Mitigation (0/2)** Natural hazards, like typhoons, earthquakes, flooding, droughts, debris flows, and land sliding have often caused major disasters in Taiwan. The general public has long been concerned about these hazards. It is believed that effective measures must be based on strong technical, so that damage and losses from these hazards could be mitigated. The National Science and Technology Center for Disaster Reduction (NCDR) was founded in 2003 to supervise the work in this regard. This course is intended to introduce the strategies, methodology and the regime of NCDR and other relevant organizations. The technologies currently used in practice and under development will be discussed for students to learn and understand the
ongoing issues.

**M0022 Engineering Economics (2/0)** This course covers the following subjects: equivalence and interest formulas; extending equivalence to real world transactions; present worth, annual worth and future worth analysis; rate of return analysis; depreciation; income taxes; inflation and economic analysis.

**S0238 Partial Differential Equations (0/2)** This course is an introduction to Partial Differential Equations, which covers various types of equations, e.g. parabolic, elliptic, hyperbolic, and/or, homogeneous and non-homogeneous equations. Techniques used for solving the problem, including separation variables, Fourier as well as Laplace transforms, and Eigen-function expansions, are also covered.
DEPARTMENT OF ARCHITECTURE

Degrees Offered: B.Arch., M.Arch.

Chair: Lai, Ih-cheng

The Department

The undergraduate program was established in 1964. It is a five-year program with the aim of educating creative and socially responsible professionals to design a man-made environment. The graduate program established in 1981 is a two-year program, which has three sub-programs: the design sub-program, the theory sub-program and the technology sub-program. The design subprogram requires a design thesis while the other two sub-programs require a written thesis.

Faculty

Professor Emeritus
Wang, Chi-kung

Visiting Professors
Kato, Yoshio; Hideki, Hirahara; Roe, Stephen-Hugh

Professor
Yau, Jong-dar

Associate Professors
Wu, Kwang-tyng; Chen, Chen-cheng; Chou, Chia-peng; Jeng, Hoang-ell; Liu, Chi-wen; Luh, Jin-shyong; Mi, Fu-kuo; Wang, Chun-hsiung; Huang, Jui-mao; Lai, Ih-cheng

Assistant Professors
Wang, Wen-an; Bee, Kuang-chein; Sung, Li-wen; Chi, Jr-gang; Tai, Nan-Ching

Lecturers
Li, An-rwei; Liu, Hsin-jung

Degree Requirements

1. Requirements for a degree of B.S. in Architecture:
   Completion of 163 credits of courses, including 109 credits of required courses and 46 credits of elective architecture courses.

2. Requirements for a Master's degree in Architecture:
   Completion of 31 credits of courses, including 27 credits of required courses and 4 credits of seminars.

Course Descriptions

Undergraduate Courses

A0868 Introduction to Fine Arts (0/2) This course focuses on the history of art. From the social, class, gender and environmental perspectives, we explore the visual languages and the ideas of art.

E0054 History of Chinese Architecture (2/0) The aim of the course is to describe the process of architectural development in the Chinese cultural area, analyze the causes behind the phenomenon of
its transformation, and enhance the understanding of essential elements of dwelling form, construction and symbolic meaning.

**E0128 History of Taiwanese Architecture (0/2)** This course stresses on-site visits and independent research, in particular the latest 100 years in the relationship between Taiwan and the world.

**E0172 History of Western Architecture (0/2)** Through the time in vertical axis and architectural pieces of different eras in horizontal axis, we explore the special characters of buildings, through the history, social background, evolution of architecture and technology to enrich the creativity sense of students.

**E0180 Strength of Materials (0/2)** This course leads students to explore stress and strain in axially loaded members, direct shear, and torsion. Shearing force and bending moment diagrams, beam deflections, and the Mohr's circle are also covered.

**E0227 History of Modern Architecture (2/0)** This course investigates issues that have influenced the making and meaning of the case of architecture design projects from the mid-19th Century to the early 20th Century. Students will read texts and present the case studies.

**E0246 Architectural Physical Environments (3/0)** This course mainly discusses issues about architecture planning, how a designer uses architecture physical environmental impact factor to reduce energy exhaust and relay to architecture equipment system.

**E0257 Architectural Programming (2/0)** This course focuses on how to make an architectural program; in addition, it discusses the issues about designing processes and planning to improve the student's ability of building design.

**E0271 Architectural Structural System (0/2)** This course attempts to introduce concepts of structure about structural system, principle, load, stress, and earthquake. Arch, cable, beam, frame, truss, slab, membrane, and shell are also introduced.

**E0273 Architectural Structure and Form (2/0)** Development of structural forms, Structural actions, Structural materials, Construction and form, Structural elements, complete structures: early forms, Contemporary wide-span structures, Bridges, Multi-story buildings and structures, Structural understanding and design.

**E0364 Fundamental Science for Architects I in Mathematics (3/0)** This course aims to provide fundamental learning in mathematics to all freshmen of Architecture Department and students of other departments who are interested in architecture. It is necessary for the students to pass a series of examinations, in which the exams in mathematics, regarding trigonometry, algebra, analysis, and synthetic and analytic geometry are decisive. One tenet of this course is to help architecture students bridge the gap between architecture and mathematics.

**E0365 Fundamental Science for Architects II in Physics (0/3)** This course aims to provide fundamental learning in physics to all freshmen of Architecture Department and students of other departments who are interested in architecture. Moreover, the students have to pass a series of examinations in physics, regarding Newton's law for architecture, general concepts of heat flow and temperature, and wave property, including light and sound, fundamental electrics for architectural equipments. One of the principles of this course is to help architecture students bridge the gap between architecture and physics.

**E0366 Introduction of Architecture and Sustainable Environment (3/0)** This course provides an overview of our architecture educational program, including both course descriptions for all studios and criteria for evaluating student studio work. Architectural education serves to lay the foundation for professional development. It supports students in the aspects of how to learn, how to approach sustainable design, how to appreciate history, and how to assume the responsibilities of an architect. It introduces students to technology and structures; teaches understanding and communication especially with engineers, technicians, and builders who are allies in the building construction industry.

**E0550 Study on Urban Space (0/2)** This course explores and examines a variety of urban spaces,
including parks, plazas, streets, waterfronts, urban architecture, and all our communal spaces. It also provides urban spatial design theories that have emerged over the past eighty years.

**E0587 Surveying Lab. (0/1)** Students have been active in the field in tape measurements, levelling surveying, angles, bearings and directions surveying, traverse surveying, topographic surveying.

**E0617 Structural Theory (2/0)** This course introduces students to the basic conceptions and principles of structural theory related to beams, trusses, rigid frames, and space frameworks.

**E0671 Engineering Application of Computers (2/2)** This course focuses on the concept and techniques of computer-aided Architectural Design. It explores the use of computers in contemporary architectural practice. Software programs include AutoCAD 2D and 3D, Photoshop, multimedia, visualization of artifacts, realistic rendering and animation. The two-credit course includes lectures and laboratory work.

**E0757 Site Planning (0/3)** The contents of this course include three parts: 1) teaching of basic knowledge about site planning studies of different building types, 2) an outdoor survey workshop to strengthen the site investigation skills of students, 3) hands-on practice on how to make a site planning project.

**E0871 Construction Laws and Regulations (0/2)** National land use planning, division of urban planning, building and construction administration, the issue of construction license, public housing and urban development.

**E0873 Construction Management (1/0)** This presentation of construction management is meant to be an introductory course in CPM/PERT, Bar Chart, Engineering Management, Cost control, PCM, Logistic Planning, Quality Control, etc.

**E0884 Environmental Control System (0/3)** This course mainly discusses issues about how a designer uses the architecture equipment system to control architecture physical Environment Impact and integrate relation with building's connecting medium.

**E0960 Surveying (0/2)** Students are introduced to a theory of measurements and errors, tape measurements, leveling surveying, angles, bearings and directions surveying, traverse surveying, topographic surveying.

**E0969 Applied Mechanics (2/0)** This course is concerned with the Statistics on basic mechanics. Several concepts are primitive in this study. Examples and problems are presented in SI units.

**E1034 Introduction to Computers (2/2)** This course introduces the basic knowledge of computer and teaches students of Architecture Department how to use the computer to increase architecture presentation ability.

**E1152 Architectural Design (I) (3/3)** As an introduction to design, this course of freshman design studio progresses through a series of small design projects with specific objectives. It begins from abstract form making to larger projects engaging the body, i.e. furniture design, to finally more complex projects concerning the issue of a site, i.e. building and the environment. Projects not only require students to learn the basic design tools, i.e. model making and architectural drawings; they further challenge students to capture the relationship between built and drawn representation of conceptual design ideas.

**E1153 Architectural Design (II) (3/3)** Based on the idea of "learning by doing," this course offers very intensive project practices. As beginners of a professional training, students are urged to demonstrate a keen sensitivity to professional discipline.

**E1154 Architectural Design (III) (4/4)** This one-year course is concerned with the design of the student communication center at Tamkang University, low-rise office building housing and tourist information centers.

**E1155 Architectural Design (IV) (4/4)** The division of Architectural Design today has become more
delicate and the aspect of design also more diverse. We encourage our students to consider “Architecture” in different points of views and anticipate the cooperation of team-work after they graduate. So the courses not only center on professional skills but also help students accumulate different experiences, such as creative-thinking, comprehension of materials, proper control of design procedures, and how to accomplish a design by advanced technology, etc.

E1156 Architectural Design (V) (4/4) As the final stage of architecture design training, instruction at this level provides support for individual student research, so that students can complete a design project at the end of the academic year.

E1253 Case Studies in Architecture (I) (2/0) The aim of this course is to provide the very basic concepts and knowledge of designing buildings. Fundamental spatial elements will be addressed by categorizing them into entrance, window, wall, ceiling, roof, staircases, space for social interact, space for one's own, light, materials, tectonics, etc.

E1254 Case Studies in Architecture (II) (0/2) As a complementary course of Architectural Design (2), this course mainly focuses on the awareness of human scale, the sense of spatial order and the understanding of materials and construction as well.

E1334 Environmental Design and Human Behavior (0/3) This course offers an introduction to human behavior functioning in the environment, focusing on variation of needs in different user groups and necessary design accommodation.

E1352 Experiencing Architecture: Towards a Critical Architectural Representation (0/2) As an introduction to architectural representation, this course focuses on the basic skills in image making, information reading through images, and preliminary photographic criticism training.

E1553 Design Methodology (0/2) Through a series of lectures and exercises, students would be able to understand design methods developed since the 1950's and to learn the thinking process beyond the visible operations.

E1661 Architecture Post Occupancy Evaluation (2/0) A review of architecture performance based on the user's perspective, including types, purposes, and methods of evaluations, and analysis of successful as well as failed case studies.

E1662 Architectural Criticism (0/2) This course explores the history of modern architecture criticism and theory from the beginning of the 20th century to the present. The topics focus on architecture style, space, form and meaning.

E1749 Architectural Representation (2/2) This course is designed to support and complement the freshman design studio. It provides students the opportunity to experiment with different methods and techniques of art and architectural representations. Woodshop, casting, collage, paintings, free hand and architectural drawings are introduced in a workshop/studio setting.

E1750 Introduction to Architectural History (2/0) Lectures on the architectural history in general and on the basic ideas about the writing of Architectural History.

E1753 Contemporary Architecture and Design (0/2) This course presents the history and theory development of Western Architecture after 1945 to the present. Students will read texts and present the building case studies as term papers.

E1755 Building Construction Practice (0/2) This is an elective course for seniors who will enter the architecture profession after graduation. Each week we arrange to visit a construction site, architect firm, interior design firm, high-rise building, prefab factory, etc., to enable students to understand what the practical world really is.

E1756 Introduction of Classical Writings in Architecture (0/2) This course offers an introduction to modern architecture, post-modern architecture, deconstructivism and critical regionalism via a series of writings.
E1758 Theory of Design (0/2) This course is designed to overtake the space acknowledgement of visual orientation in the process of Design and make responses under different changes of new circumstances. Using our body as the base, we experience the real environment, face the challenges from different topics, and practice the dialectical ability of Design to affect the reality.

E1799 Introduction to Urban Planning (3/0) This course begins by introducing the history and theory of urban planning in western world. Then it focuses on the mechanism and various tools used in urban planning in Taiwan.

E2054 Space and Society (0/2) This is an introductory course to address the issues of space and society. Some basic issues will be explored, such as: what's the relationship between space and society, is there any space which could be defined beyond social aspect, how is social formation, like gender, race, and class, represented through and formed by space? The class will also discuss some social and special theories to enhance theoretical thinking.

E2257 Introduction to Urban Design (2/0) This course provides an understanding of the dynamics that has created urban environment, including cultural, political, and spatial issues. It also provides the theoretical context of complementary urban designers and planners.

E2285 Architecture Multimedia Presentation (2/2) This course introduces multi-media presentation of architecture, including architecture 3D model animation editing and cutting. The purpose is to make an architectural presentation movie.

E2414 Assemblage (3/0) This course is concerned with the operation of architecture knowledge and techniques of mastering material characteristics to utilize fundamental environment, design, making and experiences to turn construction work into creative architecture.

E2415 Construction and Management (2/0) This course serves to introduce the practice of architecture as a profession and as a design service business. The process of turning designs into buildings requires far more than inspiration and technical expertise. The course consists of three parts. The first will focus on the nature of professionalism and ethics in general and the way they have developed in the design professions. The second offers a detailed look at the profession operations of a design office which will provide the basis for understanding the business and management issues that follow. This segment addresses management structures and their effect in design practices. The third segment of the class addresses project management methodologies related directly to architecture and construction.

E2528 Building Technology (I) (3/0) The approach of the class on building design is through the understanding of the technical aspect of the building. Masonry, reinforced concrete, wood, and steel are the four building systems. Various construction methods will be discussed through the categories of roof, wall, floor, and foundation. Various systems of structure, building envelope, water proofing, and energy conservation will also be examined. The overall effort is constantly placed on the integration of the building elements of structure, environment, enclosure, formal expression, and spatial definition.

E2529 Building Technology (II) (0/3) The approach of the class on building design is through the understanding of the technical aspect of the building. Masonry, reinforced concrete, wood, and steel are the four building systems. Various construction methods will be discussed through the categories of roof, wall, floor, and foundation. Various systems of structure, building envelope, water proofing, and energy conservation will also be examined. The overall effort is constantly placed on the integration of the building elements of structure, environment, enclosure, formal expression, and spatial definition.

E2530 Sustainable Architecture (0/2) This course offers a glimpse into a certain Utopia. It is divided into two major parts. The first sets out some introductory concepts which contain planning and design, transportation, landscape and nature in the city, building design, energy and information, materials, water, waste and resource. The second is a group of case studies, which draw on some of the best experience from Taiwan and all over the world. This course hopes to stimulate all those interested students to design and develop their own Utopias.

E2531 Design Development and Detailing (0/2) This course explores means of choosing appropriate building materials and integrating these materials in proper manners in building and interior design.
This course will emphasize the "appropriateness" in detailing components that are essential in the creation of spaces.

**E2532 Architectural Lighting Design (2/0)** This course offers an introduction to Light, Seeing Process, Colors, Light Sources, Luminaires, Point-by-Point Calculation, Computer Calculation and 3D Lighting Simulation.

**E2533 Architecture in English (2/0)** The course is intended to enhance students’ abilities and techniques in the use of the English language in architecture reading, oral and visual presentations. It is a class entirely in English, so that students can be prepared for global communication.

**E2534 Urban Housing Case Study (2/0)** This course explores the design topic: house. This course will focus on some issues: “how to make form,” site analysis and spatial organization.

**E2555 Architecture and Urbanism in the Age of Globalization (2/0)** This course explores the possibilities of architectural and urban design in the speeding process of globalization since the 1970s. It begins from the theoretical analysis of globalization to the new type of architectural and urban programming, to finally various case studies related to the subject.

**E3056 Architecture Ethics and Codes (0/2)** This course not only offers a general knowledge of architecture ethics, but also supplies a general view of laws related to construction. The contents of courses offered in the architecture department will be described in class. This course will use real as well as imaginary cases as topics for class discussion. The cases used in class will principally be cases decided under the Building Law. Cases decided under the Civil Code, Criminal Code and private contract law will also be used in appropriate circumstances. Supplemental lectures will also be given.

**E3057 Detail Design Development and Construction Practice (3/0)** This course explores means of choosing appropriate building materials and integrating these materials in proper manners in building and interior design. This course will emphasize the "appropriateness" in detailing components that are essential in the creation of spaces. The course is divided into three parts. Part one is designed to teach modern Wood Frame Construction. Basic information about wood materials and construction methods, as well as case studies of real projects, will be provided throughout this part. Part two will study the working drawings of Toyo Ito's Taichung Opera House. This part is designed to bridge the gap between theory and practice. Part three will focus on the working drawings and details design. Senior professionals from architecture firms will help students to learn working drawings from the design concept through the finished buildings.

**E3058 Architecture in English I (2/0)** The purpose of this course is to enhance students’ English comprehension in architecture professionalism. Class contents include (1) vocabulary learning and sentence application, (2) article reading and short writing, and (3) oral presentation and discussion. All classes will be conducted in English to increase learning intensity and language proficiency.

**E3059 Architecture in English II (0/2)** This course is the second part of a two-semester course designed to enhance students’ English comprehension in architecture professionalism. Contents of the course are focused on strengthening communication skills for formal presentations, including both oral and documentation forms. All classes will be conducted in English to increase learning intensity and language proficiency.

**E3060 Community Service and Practice (2/0)** This course will provide students with a unique, experiential based learning activity. Direct experience is for students to learn and develop personally, professionally and academically.

**E3086 Architecture Professional Practice (2/0)** This is an architectural professional practice course in summer for senior level students. This course familiarizes students with the physical experience through processes of building design projects. Students must spend 2 months in summer under the supervision of both the instructor and the authorized architect to have their performance of the practice evaluated.

**S0483 Environmental Ecology (2/0)** An introduction to life on land and in water, temperature relations, water relations, population ecology, and structure, function, and dynamics of an ecosystem.
T0978 Introduction to Landscape Architecture (2/0) This course explores the uses of materials, techniques and styles in contemporary landscape design. The study of the direct line links ecology, art, culture and philosophies as a perceptible whole.

Master's Program

E0270 Computer Program in Architecture (0/1) This course introduces techniques of computer graphics programming. Visual Basic Scripts are applied into 3D Rhinoceros computer graphic environment. Different computer programming commands such as macro, parameter, condition, for-loop, recursion, and function are taught step by step.

E1041 Architectural Semiotics (2/0) Through the theory of architectural semiotics to the reflex concept of composition space, students will understand the meaning of architectural semiotics and manual semiotics to approach the goal of architectural creation.

E1196 Energy Factors in Architecture (0/2) To provide architecture graduate students with the knowledge and tools to analyze and integrate energy consideration in architectural design, the course will discuss the major energy factors with a focus on the building envelopes and its mechanical systems in the process of architectural programming, planning and design.

E1321 Induction Design (2/0) Induction design is a method for incorporating computer programs to generate architectural design results that meet design conditions. Different design cases and computer programs will be discussed in this course.

E1707 Building Disaster Prevention in Urban Area (0/2) By studying the nature of disasters and patterns presented, we will trace resolutions from upward urban planning to downward building control.

E1709 Culture and Environment (2/0) Theories and ideas of space, place, behavior setting and the environment, emphasizing the influence of human cognition and social, cultural factors in the understanding and organization of the physical environment.

E1712 Studio: Computer Media and Design (2) (4/0) This studio is primarily a project-based course comprising readings and projects of increasing complexity in discussing the relationships of modern computer technology, architectural design, and contemporary culture. A series of design exercises address particular concepts of architecture in the information era.

E1718 Studio: Regional Culture and Urban Design (2) (4/0) This studio is concerned with the spatial practice in common places. Cultural issues and practical strategies are analyzed to find the way to building a characteristic community.

E1719 Green Architecture (2/0) This course mainly discusses building conservation, Low Impact, compact with environment, health, comfort amenity, ecological building and sustainable architecture.

E1720 Post War Western and Taiwanese Architecture (0/2) This course examines the issues inherent in the Taiwanese Architecture with regard to Western culture, ideology and built technology after 1945 to the present.

E1801 Applied Fluid Mechanics (0/2) This course is intended as an introductory course in fluid mechanics for students of different departments in the college. The subject of fluid mechanics is the study of the behavior of fluids at rest and in motion with the basic physical laws of motion. The course includes fluid statics, fluid kinematics and fluid dynamics.

E1946 Computer Applications in Architecture (2/0) This course emphasizes the use of the computer in architectural design and visualization. Topics include: fundamentals of multi-media, 3D modeling, NURBS, geometric transformation, lighting, rendering, animation, and dynamic simulation.

E2224 Vernacular Architecture (2/0) This course introduces ways of seeing and interpreting Taiwanese nature, history and culture, as revealed in built surroundings-building, settlement, city districts, and other man-made-structure.
E2430 Environment Meaning and Interpretation (0/2) This course is an advanced graduate seminar focusing on the processes and products of environmental meanings. Theory discussions mainly involve cultural, historical social influences on the processes of meaning construction, and their material manifestations.

E2440 The Practice and Strategy of Urban Design (0/2) Urban Design is concerned with the production of urban form, which is based on the interaction between the life world and design mechanism. The course is divided into two parts: case studies of urban design process and discussions about urban design and planning concepts, which are derived from various visions of what urban transformation should evolve and how design intervention can improve environmental quality. Issues about ecology, communication, participation, management, and conservation of urban texture will be emphasized. Overall, the main objective of the course is to help students develop the skill of planning with new concepts from design practice.

E2448 Information Culture & Architecture (0/2) This course introduces recent developments of IT (information technologies) in architecture. Topics include: CAD/CAM, AI in design, hyper-surface, information-landscape, digital tectonics, cyberspace, and contemporary architecture theory.

E2589 Architect & Architecture (2/0) It is the goal of this course to help students form their own ability for critical thinking in architecture by a serious examination and analysis of architects and their works.

E2612 Ecological Engineering Methods and Environmental Landscape (2/0) The eco-engineering and ecological methods are introduced in this course. The course emphasizes the importance and the impacts of these methods on various engineering issues that include hydrology, geo-technology, roads and pavements, environmental protection and urban planning. The management and rehabilitation of the corresponding projects and the civilian participation are also discussed with major concern on the education developments. Overseas and domestic experiences would be addressed while a couple of field trips on eco-engineering projects around Taipei are arranged for students to feel and learn the life of these methods.

E2614 Cultural Studies and Landscape Theories (0/2) This course is intended to introduce basic understanding and new development of cultural studies and landscape theories related to the field of architecture and to fathom the spectrum and meaning of the generic term of 'cultural landscape.'

E2777 Architecture Design & Urbanism (3/0) This studio involves collaborative work on problems that are large in scope but require attention to spatial organization. Complex community design problems will be explored.

E2786 Lecture Series on Architecture and Urban Environment Professionalism (0/2) This lecture series is intended to provide graduate students with a wide range of perspectives in professional practices related to architecture and urban design fields. Prominent and accomplished professional practitioners with specialty in various areas and issues will be invited to lecture and share insights with students each week. The direct talk and contact with a broad spectrum of accomplished professionals can also enhance vision and bring great inspiration to graduate students for their future professional career development.

E2794 Sustainable Environmental Design (2/0) This course offers many sustainable cases for introducing the relationships between sustainable notations and design process. Students can get the knowledge from the designer’s concept and put it into their final project. Students are required to submit midterm and final papers for presenting their accomplishment in sustainable leaning.

E2894 Theory of Urban Environment (2/0) This course deals with the dynamics that has created urban environment, including cultural, political and spatial issues. It also explores the new urban design issues with respect to the innovative technologies such as Artificial Intelligence. Through integrating with the urban design studio learning, this course aims to help each student to establish his/her theoretical context and the implementation strategies in urban environment.

E2898 Comprehensive Survey of Architectural Theory (0/2) Various architectural theories will be
discussed and compared for students to rethink what influence they have brought to our society. In addition, class participants should attempt to develop their own point of view to criticize/appreciate architecture by writing weekly essays. Basic knowledge of architectural history is required for taking this course.

E2903 Special Topics on Urban Studies (2/0) This course will instruct students in knowing, observing, and analyzing the physical form of a city and its urbanism. This will include the reviews of various methodology of study with some projects as examples. Miscellaneous topics will be discussed: the idea of urbanism, the theories of urbanism, and the recent debates on urbanism.

E2904 Computer-Aided Analysis and Design in Buildings (2/0) The increasing power of computers and the progress in the field of computer-aided analysis and design are making the analysis and design methods a very powerful and widespread tool. The objective of this course is to introduce a series of building-related software to master students in architecture so that they have the ability to utilize and integrate the modern computer technologies in future architectural engineering and professional fields.

E2920 Architecture and Globalization (0/2) This is an introductory course of instruction in the relationship between contemporary architecture and the development of globalization. Students will learn to view architecture as a tool to penetrate the rapid social and cultural changes in the world. At the end of this course students are expected to understand architecture as a man-made artifact in a broad context.

E3118 Studio: Architecture Theory and Design (0/3) This studio is a project-based course; reading and techniques of modern digital design in architecture will be introduced. Students of this studio integrate CAD/CAM techniques, scripts, and digital tectonics into their design processes.

T0081 Research Methodology (0/2) This course trains students for pre-dissertation and pre-thesis research strategies by exposing them to a variety of methods of inquiry, including the nature of research, critical reading and analysis.

T8000 Thesis (4) Post-graduate students are required to complete a thesis as part of the fulfilment of the master's degree. Thesis of the Theory and Technique group is research-oriented and that of the Design group is design-oriented.
DEPARTMENT OF CIVIL ENGINEERING

Degrees offered: B.S., M.S., Ph.D.

Chair: Yang, Zon-yee (楊長義)

The Department

The Department has an enrollment of about 800 students. It offers courses for undergraduate students and a graduate program for advanced study. In addition to the necessary background in the field of civil engineering, the department puts emphasis on special areas for both undergraduate and graduate students; these are: Geotechnical engineering, Structural engineering, and Transportation engineering. The department offers BS, MS, and Ph.D. degrees in the field of Civil Engineering. For BS, MS, and Ph.D. degrees, a minimum of 146, 26, and 24 credit hours are required, respectively; a thesis is required for the MS and Ph.D. degrees.

Faculty

Professors
Chang, Der-wen (張德文); Cheng, Chii-ming (鄭啓明); Chu, Shi-chih (祝錫智);
Hsu, Ting-chi (徐廷基); Lee, Ying-haur (李英豪); Lin, Yuh-yi (林裕益);
Wu, Cho-sen (吳朝賢); Wu, Jon-chen (吳重成); Yang, Zon-yee (楊長義)

Associate Professors
Chang, Cheng-hisn (張正興); Hong, Yung-shan (洪勇善); Kao, Chin-sheng (高金盛);
Liu, Ming-jen (劉明仁); Wang, Jen-mu (王人牧)

Assistant Professors
Fan, Su-Ling (范素玲); Tsai, Ming-Hsiu (蔡明修); Tuan, Yung-ting (段永定)

Degree Requirements

The Department of Civil Engineering offers two programs at the undergraduate level: the Division of Infrastructure and the Division of Building Business.

1. Requirements for a degree of B.Sc. in the Division of Infrastructure:
   Completion of 146 credits of courses, including 102 credits of required courses and 29 credits of elective civil engineering courses.

2. Requirements for a degree of B.Sc. in the Division of Building Business:
   Completion of 146 credits of courses, including 101 credits of required courses and 29 credits of elective civil engineering courses.

3. Requirements for a Master's degree in Civil Engineering:
   Completion of 30 credits of courses, including 4 credits of thesis course. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

4. Requirements for a degree of Ph.D. in Civil Engineering:
   A. Program A: Completion of 30 credits of courses, including 6 credits of thesis course.
   B. Program B: Completion of 24 credits of courses, including 6 credits of required courses and 6 credits of thesis course.

Students are required to pass a qualifying examination within the first two years and publish at least one research paper in any journal listed in Civil/Architecture Engineering Index. Students are also required to submit a written doctoral dissertation completed under the supervision of a faculty member and pass an oral examination.
Course Descriptions

Undergraduate Courses

**B0302 Economics (3/0)** This course covers the art and science of economic analysis, some tools of economic analysis, market system, economic decision makers, elasticity of demand and supply, labor markets and labor unions, etc.

**E0006 Introduction to Civil Eng. (1/0)** This course is intended to introduce to the freshman major students job marketing and the prospective related to the profession of Civil Engineering. Data and regulations of the Department of Civil Engr. at TKU are to be introduced as well as the regime of course contents designed for students of both divisions. It is a one-credit compulsory requirement for CE undergraduates. Students are expected to learn the contents and facts in this profession through this course. Lectures and multi-media teaching accessories are provided for effective leaning.

**E0011 Soil Mechanics (3/3)** This course offers a study of the mechanical behavior of engineering soils when they are sheared or compressed or when water flows through them. Topics include the nature of soil, states of stress and strain in soil.

**E0023 Engineering Geology (3/0)** Topics include the interrelationship between engineers and nature, the change of geological and regional structure at construction sites, classification and feature of rocks and their characteristics in mechanics and various existing activities of earth crust related to engineering design.

**E0024 Engineering Materials (2/0)** This course offers an introduction to the basic structure, physical properties, mix design, testing and mechanical behavior of civil engineering materials.

**E0026 Engineering Materials Laboratory (1/0)** Laboratory sessions provide hands-on experience in performing standard testing procedures used for material specifications and construction quality control.

**E0030 Engineering Drawing (1/0)** The purpose of this course is to teach students how to make drawings and how to read drawings.

**E0031 Graphics (0/1)** Students are introduced to the three major parts of graphic science: descriptive geometry (including perspectives and shadows), engineering, measuring, drawing and graphical solutions.

**E0034 Engineering Mathematics (3/3)** This course introduces students of engineering and physics to the areas of mathematics that, from a modern point of view, seem to be the most important in connection with practical problems.

**E0102 Hydrology (2/0)** This course conducts a study of the science of water such as its generation, cycle, distribution, chemical/physical characteristics and interrelations with environment and biology. The emphasis is on water volume research, control and engineering hydrology facility design and application.

**E0180 Mechanics of Materials (0/3)** The first part of this class covers the analysis and design of structure members subjected to tension, compression, torsion, and bending. Topics of the second part are the transformations of stress and strain, combined loadings and deflections of beams.

**E0300 Fluid Mechanics (0/3)** Students must get a "feel" for flow patterns, pressure variation and shear stress in fluid flow if they are to have a clear understanding of fluid mechanics. Topics include flow patterns, velocity, acceleration, kinematics, pressure variation in a flowing.

**E0431 Advanced Strength of Materials (0/3)** Contents include beam on Elastic foundation, shear center of thin-wall member, bending of curved beam, general concept of stress and strain, energy principle, torsion problem and membrane analogy, torsion in hollow thin-wall members, etc.

**E0466 Dynamics (2/0)** This course covers the theory and principles of dynamics in introductory
mechanics. Subjects include kinematics and kinetics of particles and rigid bodies.

**E0587 Surveying Lab. (1/1)** The course expects to achieve the following three goals. The first goal is the hardware training on instrument operation and instrument maintenance. The second is the skill training on the complete graphing process. The third is the spirit cultivating on the teamwork coordination.

**E0607 Matrix Structural Analysis (3/0)** The displacement method of structural analysis is formulated through the principle of virtual work. Both the manual calculation and application of the computer are introduced for the analysis of truss and frame structures.

**E0617 Structural Analysis (3/3)** This course introduces students to the fundamental tools for analyzing member forces and deformation of structures. Structural types include beams, trusses and frames, no matter whether determinate or indeterminate.

**E0618 STRUCTURAL THEORY (II)** The purpose of this course is to lead the civil engineering students interested in structural analysis to learn fundamental structural theory using advanced approaches. The following topics will be introduced: slope deflection (SD) method considering more complex structures, fundamentals of moment distribution (MD) method, and the applications of energy methods in structural analysis.

**E0665 Transportation Engineering (3/0)** Introduction to transportation planning and transportation modeling; development and evaluation of transportation planning options; transportation system management; design of roadways, railways and air transportation facilities.

**E0671 Engineering Application of the Computer (2/2)** Students learn structured programming, which is necessary for the promotion of fully computerized operation. Topics include the methods and techniques to solve problems with computers and FORTRAN programming, etc.

**E0730 Pre-stressed Concrete Design (3/0)** This course introduces students to the fundamental principles of pre-stressed concrete behavior and design, so that they can act effectively to optimize existing forms of construction and apply fundamental concepts with confidence in unusual and challenging situations.

**E0851 Reinforced Concrete (3/3)** General design concepts in designing concrete structures are provided, with emphasis on the USD method. It serves students as a connection course from structural analysis to structural design.

**E0873 Construction Management (0/3)** Major topics include contract and specification, construction planning, progress scheduling control, financial planning and cost control, material management, labor and equipment management, quality control, safety and sanitation management.

**E0879 Introduction to Environmental Engineering (3/0)** Topics include water pollution and control, solid waste disposal, air pollution control, public nuisance in construction, noise pollution and control, and environmental impact assessment.

**E0918 Introduction to Construction Automation (0/2)** Topics include planning and design automation, construction technique automation, construction equipment automation, construction material automation, construction management automation, smart building and industrialization of house production.

**E0927 Sewerage Engineering (0/3)** The material in this course is arranged in the logical sequence of collection, treatment and disposal. Major topics such as sewage quantities estimation, sewerage system design and construction, primary treatment, secondary treatment, etc. are also covered.

**E0960 Surveying (2/2)** This course aims to provide students with the basic concept of surveying and introduce them to practical surveying techniques generally required in engineering.

**E0962 CAD/CAM (3/0)** This course is lab exercise and programming oriented. The objective is to cover a wide range of topics (e.g., computer graphics, modeling and visualization, analysis and design.
packages) to produce knowledgeable CAD (Computer-Aided Design) users who can quickly learn specific programs and/or software within a specific computing environment.

**E0967 Design of Reinforced Concrete Structures (0/3)** Performance of concrete and steel as structural materials and the behavior, elastic and inelastic, of reinforced-concrete members and structures; designing structures safely, economically and efficiently.

**E0968 Steel Structure Design (0/3)** Introduction to steel structure, tensioned member, compressed member, beam, design of beam and column, bolt jointing, welding jointing and other joint design.

**E0969 Engineering Mechanics (0/3)** Basic principles of solid mechanics are provided. Statistics of rigid bodies, equilibrium problems, analysis of structures, forces in beams, friction, and moments of inertia are the topics of this course.

**E0998 Foundation Design (0/2)** This course covers the topics of spread-foundation, retaining structures, anchor, and pile foundation. Selection of the foundation based on soil conditions and structural constraints is the first step of design.

**E1034 Introduction to Computer (2/2)** Introduction to computer, number system and logic algorithm, representation of data, input/output unit, memory unit, central processing unit, flow chart and program language, FORTRAN program and exercises.

**E1035 Highway Engineering (0/3)** Geometric design of highways: background and guidelines; practical design examples; transition curves; analysis of highway capacity in Taiwan; earthwork; application of PC-MOSS software; thickness design procedures of flexible and rigid pavements used in Taiwan.

**E1124 Soil Improvement (3/0)** This course emphasizes the practicability and applicability of soil improvement in an “easy to understand” way. The classes will go through kinds of soil improvement methods and principles, application conditions, design and calculation procedures, construction elements and inspection methods. Through the course, our students would build a proper knowledge of a variety of soil improvement methods, and have the ability to select the appropriate method and carry out the effective design, when they are dealing with relevant ground treatment problems in future practical works.

**E1177 Artificial Intelligence in Civil Engineering (0/2)** This course introduces the key concept of artificial intelligence sufficient for creating simple intelligent systems in engineering. Symbolic programming language (Prolog) and rule-based systems are instructed to illustrate AI principles.

**E1245 Construction Methods and Equipment (0/3)** The following major topics are covered in this course: the planning process for equipment and methods, earth work and equipment, concrete work and equipment, form work, reinforcement work, foundation engineering and equipment, bridge engineering and equipment, pavement engineering and equipment, etc.

**E1245 Construction Methods and Equipments (2/0)** This course is intended to provide a comprehensive introduction to the methods and equipments of construction. The items included are earthmoving materials and operations, excavating and lifting, loading and hauling, composting and finishing, rock excavation, production of aggregate, concrete and asphalt mixes, concrete construction, foundation engineering, bridge and tunnel constructions.

**E1270 Estimating Construction Cost (3/0)** Cost estimation in construction engineering is very important. Topics such as quantities calculation, analysis of labor and materials, fee rate analysis of construction equipment, typical synthetic unit price analysis and cost estimation for special construction item are covered.

**E1317 Water Supply Engineering (3/0)** This course covers water supply engineering and water waste engineering. Topics include water supply engineering projects, water quality, water purification, water supply system, drainage system, waste water treatment and water supply equipment, etc.

**E1396 Pavement Design (0/3)** This course covers fundamental theories and design procedures used in
pavement design. Numerous topics, including pavement mechanics, traffic loading, pavement performance as well as design procedures, are introduced.

E1398 Railway and Rapid Transit Engineering (0/3) Public transportation and urban development; transit classifications; vehicle characteristics and motion; analysis of travel time; rail transit modes and facilities; mass rapid transit systems in Taiwan; transit system performance; new concepts and technologies.

E1678 Introduction to Structural Dynamics (0/3) Preliminary concepts of structural vibration are provided. First part: mathematical tools for vibration problems. Second part: virtual work method. Third part: The response solutions of free vibration and forced vibration.

E1799 Introduction to Urban Planning (3/0) This course begins from introducing the history and theory of urban planning in western world and then focuses on the mechanism and various tools used by the urban planning in Taiwan.

E2122 Project Research (1/0) This subject or project research aims to train students to learn how to study a research project. It involves the literature reviewing, research approaches, problem discussion, and writing and presenting a technical report.

E2427 Engineering Management (2/0) This course introduces the produce of a huge project, plan, design construction, operation and maintenance, and how to complete the project on schedule and meet the requirement within the budget.

E2474 Statistical Methods in Engineering Applications (3/0) This course helps students understand the basic concepts of descriptive statistics, probability distributions, parameter estimation, statistical inference and statistical methods for engineering applications. The major topics of this course include: Introduction, Descriptive Statistics, Probability Distributions, Distributions of Sampling Statistics, Parameter Estimation, Hypothesis Testing, Analysis of Variance, and Regression.

E2525 Strength of Materials (II) (2/0) This course is a second course for students who have been equipped with a basic understanding of strength of materials and want to pursue more advanced knowledge on the related subject. The content in this course includes “Using Discontinuity Functions to Calculate Beam Deflection,” “Beams on Elastic Foundation,” “Bending of Beam with Non-symmetric Cross-Section,” “Shear Center of Thin-Wall Member,” “Columns-Buckling Problems” and “Energy Principle.”

E2767 Ecological Engineering Methods (3/0) This course covers a variety of ecological engineering methods and their applications for various engineering problems. Emphasis is placed on slope renovation, retaining engineering, bank revetment, ground sill works and ecosystems in a river as well as ecological corridors.

E2955 Trackwork Engineering (0/3) Topics covered include: history of railroad, train control systems, advances in track engineering, domestic construction experience of high-speed passenger rail, and other topics of interest.

E2956 Quality Control and Experiment Design (0/3) Introduction to the governmental quality assurance regulations for public works. Application of quality control concepts, statistical experimental design principles to the construction process to minimize project costs and improve quality.

E2958 Construction and Estimation (3/0) The course aims to establish knowledge and skills of construction vs cost estimation in engineering, so that students can apply in the future career and pass the examination of professional engineer.

E2959 Engineering Insurance and Risk Management (3/0) Risk management and insurance is the study of methods used by organizations and individuals to manage activities whose outcomes cannot be forecasted exactly. In organizations, the purpose of risk management is to enable the organization to progress toward its goals and objectives on a direct, efficient, and effective path. As such, risk management is a central management function, devoted to the management of uncertainty and its effect on the organization’s progress toward its mission. Risk management is an element of virtually any area
of management specialization. This course focuses on a special category of risks: risks that are
controllable in the sense that managers’ actions can affect the process giving rise to uncertainty.
Meanwhile, primary insurances applied in Construction Industry will also be introduced to students.

**E2960 Property Management (3/0)** The first objective of this course is to introduce the concept and
effectiveness of property management. The second objective is to help students realize the practice of
property management.

**E3081 Introduction to Engineering Mechanics (1/0)** This course is designed to introduce briefly the
history of Mechanics developments and the major contents of Mechanics. Upon completion of this
course, students are expected to understand the general concepts and the fundamentals of Mechanics.
The subjects covered include the vector analysis, equilibriums, forces and moments, stresses and
strains and other basis in Solid Mechanics and Structural Mechanics. It is hoped that this course would
provide students an interest in and draw their attention to Mechanics before they really start to take any
serious professional mechanics courses.

**E3082 Engineering Graphics and Computer Drawing (2/0)** The goal of this course is to help
students develop proficient skills so that they can communicate with other professions with graphical
languages. Students will learn fundamental concepts of visualization technologies applied for
engineering purposes, through lectures, readings, laboratory, discussions and projects. They will learn
to use CAD-based software to illustrate a structure, machine, and system on a paper or a computer
screen. Topics include the fundamental background in engineering graphics, such as 2D and 3D CAD
system, multi-view projections, sectional views, design and construction drawings, perspective,
structural drawing, and topographic drawings.

**M0007 Artificial Intelligence (0/3)** This course introduces the key concepts of artificial intelligence
sufficient for creating simple intelligent systems. Principles of rule-based systems are presented. An
expert system shell is selected for term projects. Each student develops a prototype system for an
application of his or her choice.

**M0066 Production & Operations Management (3/0)** Production and Operations Management is
about the transformation of production and operational inputs into outputs that, when distributed, meet
the needs of customers. It has been a key element in the improvement in productivity in businesses
around the world. This course focuses on productivity improvement in construction. Topics include
productivity evaluation, factor model of construction productivity, on site performance improvement
program, etc.

**M0086 Introduction to Business (3/0)** This is an introductory exploratory course designed for both
business and non-business majors. From this course, students learn key concepts and disciplines of
business and its environment, management and organization, people and production, marketing,
finance, risk management, and multinational business.

**M0271 Financial Management (3/0)** This course analyzes the underlying theory, principles and
techniques used in financial management to maximize the value of the firm. Discounted cash flow
analysis, risk and return measurement, capital budgeting, the cost of capital, capital structure theory
and leverage policy, dividend policy, long-term financing policy, working capital management,
financial statement analysis, mergers, holding companies, and multinational financial management will
be discussed.

**M0271 Financial Management (3/0)** This course offers an introduction to concepts and methods of
financial management. Topics include risk and return, asset valuation, capital budgeting, capital
structure, business financial planning and working capital management.

**M0518 Accounting (3/0)** The main purpose of this course is to introduce basic framework and
practice of Financial Accounting. We will introduce the primary forms of business organization,
accounting cycle, merchandising operation, and internal control. Further, students can prepare and
understand financial statement reports, and then analyze a company’s financial structure.

**M0623 Real Estate Investment and Management (2/0)** 1. Understand the change of economic
situation which influences the real estate investment & management. 2. Understand real estate
investment opportunities on the two-sides across the Taiwan Strait. 3. Understand real estate market boom-and-bust and economic indicator analysis. 4. Research the investment concept and the operating decision in real estates. 5. Analyze MOU & ECFA which influences Taiwan’s real estate. 6. The global house price froth forms the reason analysis. Create competitive advantages.

**S0251 Foundation Engineering (0/3)** This course focuses on the science and art of applying the principles of soil and structural mechanics together with engineering judgment (the art) to solve the interfacing problem.

### Master's Program

**E0000 Engineering Materials and Quality Control (0/3)** This course is designed for students to understand properties and behavior of various civil engineering materials, standard specifications and methods of test, long-term protection and durability, inspection, quality control and assurance.


**E0015 Engineering Properties of Soil (3/0)** This is a laboratory oriented course; subjects studied are the formation of soils, the index properties and the hydraulic properties, compaction characteristic of soils. Consolidation behavior of soft clay and the shear strength tests are also included.

**E0016 Soil Dynamics (3/0)** This course covers two basic areas: the liquefaction of loose saturated sands and the conventional dynamics of foundations due to vibration of machines.

**E0017 Numerical Methods in Geotechnical Engineering (0/3)** This course offers an introduction to numerical methods and their application in geotechnical engineering. The finite difference, finite element, and boundary elements methods are also briefed in this course.

**E0156 Finite Element Method (0/3)** The finite element method is the most powerful structural analysis tool for the civil engineers. The basic formulation and programming technique are introduced. According to the same procedures, the different elements such as truss, beam, plate and shell are easily formulated.

**E0422 Advanced Soil Mechanics (0/3)** Stress distribution for various kinds of loads in the soil, strength and failure criteria of soil, consolidation characteristics of soft clay, and stability problem in the soil mechanics.

**E0449 Advanced Structural Mechanics (3/0)** This course employs both the Force method and the Displacement method to analyze the structures, Sub-structure, C.S.T. element and Material nonlinear problems.

**E0491 Theoretical Soil Mechanics (0/3)** This course offers an introduction of solutions to geotechnical engineering applications that are classified as stability problems. Upper bound and lower bound methods of the limit analysis are emphasized in the class.

**E0608 Structural Dynamics (3/0)** This course covers the methods for analyzing the stresses and deflections developed in any given type of structures when they are subjected to an arbitrary dynamic loading.

**E0619 Structural Stability (0/3)** This course presents a concise and reasonably comprehensive introduction to the principles and theory of structural stability that are the bases for structural steel design and show how they may be used in the solution of practical building frame design problems.
E0862 Tunnel Engineering and Design (3/0) This course focuses on the design and construction of soft soil and rock tunnels. Emphasis is placed on the stability and safety of tunnels.

E1159 Pavement Materials (0/3) This course discusses design and properties of modern pavement materials, including soils, aggregates, Portland cement concrete and asphalt concrete.

E1187 Rock Mechanics (3/0) Topics include the origin, formation, and characteristic of rock and rock joints. The index properties, engineering classification, and strength of rocks are presented in this course. Also included are the specific applications of rock mechanics for surface and underground excavations and foundations.

E1332 Expert Systems in Civil Engineering (0/3) Topics include: fundamentals of artificial intelligence; introduction to symbolic language and expert system shells; knowledge representation and reasoning paradigms; and object-oriented programming.

E1337 Pavement Analysis and Design (3/0) This course is intended to address advanced theories of pavement behavior and concepts of pavement design.

E1338 Pavement Evaluation and Rehabilitation (0/3) This course focuses on the concepts and techniques of pavement evaluation, and proper design of pavement maintenance and rehabilitation projects.

E1344 Special Topics and Programming in Knowledge-Based Systems (3/0) The emphases are on knowledge-based programming methodologies, knowledge engineering techniques, life cycle of expert systems, and alternative reasoning paradigms. Each student develops a prototype expert system for an application of his or her choice.

E1350 Wind Engineering (3/0) This course reviews: random vibration and spectral analysis; characteristics of atmospheric boundary layer flow; bluff body aerodynamics; aero elastic phenomena-structure and flow interaction; along wind and across wind responses of high-rise buildings and slender structures; and wind tunnels.

E1367 Special Topics in Transportation Engineering (0/3) This course covers the consideration, analysis, and evaluation of recent transportation related innovations and developments.

E1481 Applications of Geosynthetics in Civil Engineering (3/0) As an introductory course of geosynthetic applications, this course offers a comprehensive introduction of product-manufacturing, properties test, and design schemes.

E2087 Constitutive Laws for Geologic Materials (3/0) This course covers a variety of constitutive or stress-strain laws of engineering materials. They play a significant role in providing reliable results from any solution procedure. Their importance has been enhanced significantly with the great increase in development and application of many modern computer-based techniques such as the finite element, finite difference, and boundary integral equation methods.

E2474 Statistical Methods in Engineering Applications (3/0) This course includes: data characteristics & collecting data, descriptive statistics, probability, discrete random variables and probability distributions, continuous random variables and probability distributions, random samples and sample distributions, point estimation, test of hypotheses based on a single sample, inference based on two samples, the analysis of variance, the analysis of categorical data, regression analysis and engineering applications.

E2874 Computational Wind Engineering (3/0) This course introduces engineering graduate students to Computational characteristics of the Navier Stokes Equations; Unique fluid mechanics aspects of nonlinear advection terms, boundary conditions, and turbulence models; Grid preparation with Cartesian and unstructured mesh generation software; Hands on familiarity with FLUENT/GAMBIT and other software products

E2877 Decision Support Systems (3/0) Contents include Decision Making Systems Modelling and Support, Decision Support Systems Modelling and Analysis, Data Warehousing, Data, Text and Web
Mining, Collaboration, Knowledge Management, Intelligent System, Implementation of Decisions Support Systems, Enterprise Systems, Knowledge Acquisition, Representation and Reasoning, etc.

E2878 Application of Artificial Intelligence in Engineering (3/0) This course introduces the principle of artificial intelligence and its applications in Engineering. Symbolic programming, search algorithm, soft computing, knowledge management and business rule systems are the major topics.

E2922 Research and Experimental Design (2/0) This course offers an introduction to the research methods with emphasis on applying them to the field of civil engineering. Experimental research design, data collection, statistical data analysis, validity, and report writing will be covered.

E2925 Structural Retrofit and Design (3/0) This course introduces the principle of structural retrofit analysis and design of existing buildings and bridges subjected to earthquakes. The major topics include: structural health monitoring, material test, lifespan evaluate, strength analysis method and design software.

E3039 Computational Fluid Dynamics - Building Environment Applications (3/0) As an introduction to computational fluid dynamics on how to generate a grid, how to specify boundary conditions, and how to determine if the computer output is meaningful, this course emphasizes the applications of CFD to building environmental problems.

E3040 Engineering Information System Project (3/0) Aiming at the implementation of engineering information system (EIS), this course guides students to propose EIS projects and then apply system analysis & system design (SASD) techniques and up-to-date information technologies for realizing their proposals.

E3041 Technologies Creation vs. Construction Engineering (2/0) This course discusses the development status of scientific technologies industry and their future creation. This course also discusses how to promote the scientific level of construction engineering and the benefit of human beings by using scientific technology creations. In the meantime, this course discusses how to promote the level of scientific technologies by using appropriate construction engineering.

E3147 Construction Automation and E-business (0/3) This course introduces the subjects and significance of automation and computerization in construction industry. Meanwhile, through a survey of the current implementation of automation and computerization, the development procedure and the trend of construction and computerization will also be provided.

E3200 Construction Financial Management (2/0) This course offers an introduction to the knowledge body consists of cash flow, risk management, project financing, Build-operate and transfer, and PFI and PPP(The Private Finance Initiative (PFI) and Public Private Partnership (PPP).

E3940 Engineering Information System Project (0/3) Aiming at the implementation of engineering information system (EIS), this course guides students to propose EIS projects and then apply system analysis & system design (SASD) techniques and up-to-date information technologies for realizing their proposals.

E3941 Technologies Creation vs. Construction Engineering (2/0) Topics include the development status of high technology industries and their future prospects, the promotion of technological level of construction engineering by using high technologies, and the promotion of creation of high technology industries by fulfilling adequate construction engineering.


E3943 Construction Automation and E-business (0/3) This course introduces the subjects and significance of automation and computerization in construction industry. Meanwhile, through a survey of the current implementation of automation and computerization, the development procedure and the trend of construction and computerization will also be provided.

S0061 Reliability Analysis (3/0) This course will first review the fundamental concept of probability theory, including many usual and useful probability distributions. Two major reliability analysis approaches, the sampling method and approximated method, are discussed and applied to the real engineering problem. Bayesian theory and other recent applications of reliability analysis in civil engineering will be discussed in this course depending on the time frame.
T0102 Seminar (0/1) The objective of this course is to bring up-to-date construction engineering information/technologies to students. Accordingly, special issues about structure, geological engineering, and construction management would be organized in this seminar. Experts in the organized issues will be invited to have talks and discussions with participants.

Ph.D. Program

E0429 Advanced Finite Element Methods (3/0) The major focus of this course is on the theoretic development and application of finite element method. In the beginning, the basic concepts of finite element method (FEM) are briefly reviewed. Then, the FEM of nonlinear material and FEM for dynamic problem will be introduced if the schedule permits. In the end, the application of FEM-Based reliability analysis and optimization problem is addressed.

E0754 Elasticity (3/0) Emphasis is placed on static problems with linear material and small deformation. Many basic 2-D problems (such as plane strain and plane stress) and 3-D problems with different boundary conditions in civil engineering application will be discussed. Torsion and plate theories will be also introduced.

E1071 Method of Architecture History (2/0) This course trains students in architecture history research strategies by exposing them to discursive analysis, including figure, writing style, architecture style, historical view, etc.

E1142 Soil-Structure Interaction (3/0) This course discusses the mechanism of soil-foundation interacting behavior. Emphases are placed on the theory and analysis of foundation vibrations, dynamic soil properties and their effects on SSI as well as modeling wave propagations in the soil media due to dynamic loadings.

E1604 Constitutive Laws for Engineering Materials (3/0) The contents of the course include a review and description of conventional models and an introduction to recent models for geologic materials. Theories of soil plasticity and their numerical implementation into computer programs are presented in the course.

E1642 Theory of Random Vibrations (3/0) This course offers an introduction to random vibration theory, correlation, Fourier analysis, spectral density, digital spectral analysis, statistics of narrow band processes, and Excitation-response relations for linear systems.

E1693 Special Topics in Civil Engineering Materials (3/0) This course offers guided readings in the literature with topics of current interest in civil engineering materials. Discussions and reports of subjects in civil engineering material fields are not normally available in regular course offerings.

E1831 Structural Control (0/3) Concepts of structural control will be systematically presented. First Part: passive devices, application including energy dissipation devices and base-isolation devices. Second Part: basic theory for SISO control and modern control theories for MIMO system, LQR method, etc.


E1930 Earthquake Engineering (0/3) This course covers the theory and applications related to earthquake engineering. The broad subjects discussed in this course include earthquake response of linearly elastic and inelastic buildings, structural dynamics in building codes.
E1955 Winded Bridge Analysis (0/3) Topics include the concept of wind loads on bridges, buffeting, evaluation of uncoupled mode buffeting and flutter, vibration control, vortex shedding and time series simulation of wind loads.

E2111 Pavement Management System (0/3) This course introduces fundamental concepts and techniques of pavement management, including database, prioritizing and budgeting activities on both network and project levels.

E2112 Soil Rodeology (0/3) This course includes soil formation and soil deposits, effective stress concept, soil structure and soil stability, conduction phenomena composition and engineering properties.

E2341 Green Architecture (2/0) Considering solar use from Greek era, recognizing ecology, the passive solar and the environmental consciousness in the last century, and studying the past materials will encourage the further study of the sustainable architectural designs.

E2615 Design Thinking and Cognition (2/0) Scholars working in the design psychology research field are invited to give lectures on their specific research topics, based on which students could have a broader vision and varieties on their future research issues.

E2616 Environment Behavior Research (2/0) This course focuses on the development of environment-behavior research, including epistemological, theoretical, methodological and implicational issues. Empirical studies will also be discussed in relation to each topic and issue.

E2617 Field Work Methods (0/2) This course emphasizes the use and validity of methods used in data gathering and analysis in the conduct of fieldworks. Philosophical, theoretical and operational concerns in relation to the methods will be discussed.

E2618 Seminar on Taiwan Modern Architecture & Urban Development (0/2) This course focuses on Taiwan’s modern architecture and urban development after World War II. Students are required to read texts and participate in discussions.

E2619 Planning of Urban Ecological Environment (0/2) This course discusses the theory of sustainable architecture. Students are required to evaluate green buildings and sustainable architecture technology regulation, and criticize the practice policy and process.

E2692 Introduction of Maintenance Engineering (0/3) This course introduces both concepts and contents of proactive maintenance engineering. It combines various aspects of civil engineering, including structural engineering, geotechnical engineering, material engineering, IT, and project management. Main topics of maintenance engineering are:
1. Facility Inventory,
2. Performance Assessment- Prioritization,
3. Maintenance Strategy,
4. Maintenance Measurements, and
5. Execution of Maintenance Engineering.

E2753 Graduate Seminar (1/1) This course is particularly designed for Ph. D. students to provide them a discussion platform to strengthen the presentation and communication skills in English. With the objective mentioned above, the contents of the syllabus can be flexibly arranged to suit the needs of the enrolled students, depending on what the instructor wants to emphasize. A routine practice could be set by asking students to prepare presentation materials based on the literature or their own research findings, making the presentation in English, and then followed by an open discussion with all the class participants.

E3002 Cultural Representations and Architecture (0/2) The goal of the course is to explore how the cultural phenomenon was reflected on architecture in the pre-modern societies. Philosophy, social structure, architectural form and style would be discussed to analyze the possibilities of design concepts.
E3068 Information Culture Study and Architecture (0/2) This graduate seminar introduces the information techniques in architecture, cyberspace, the developments of information society, and contemporary architecture theory in digital design, as well as critiques of information.

E3095 Design Thinking: Media, Cognition and Computation (0/2) To understand how a designer thinks design (called design thinking) is the key issue in the research field of computer aided architecture design (CAAD). Through introducing the fundamental theories and researches with respect to media, cognition and computation in the course, the instructor helps students to understand the relationships between design thinking in human design behaviour and computer-aided system.

E3097 Contemporary technologies in architecture and buildings (0/2) With the advancements in building technologies and computer remote control, modern building systems should create a convenient, safe, healthy, and comfortable living environment for residents. The successful deployment of these systems in a building requires feasible and accurate equipment assessment. This course is intended to provide an overall understanding of the state-of-the-art technologies in building services to related professionals engaged in complex multi-disciplinary building projects.

E3132 Architecture and Sustainable Technology Study (2/0) This course offers existing sustainable technology and its utilities in architecture design. The course will be conducted in mutual discussions in the classroom. Half issues will be assigned before the course starts, and the other half will be discussed in the classroom altogether. Students are required to present their chosen issues for their midterm and final reports.

E3201 Stress Wave Propagation (3/0) This course introduces the basic theoretical framework of elastic waves and discusses the behavior and characteristics of elastic wave propagation in the media of various shapes. Elastic waves are widely used in many engineering applications such as non-destructive inspection, geophysical study, medical ultrasonic imaging and physical acoustics.

T0102 Seminar (Cross-Disciplinary Seminar) (0/2) This course is intended to establish a methodological and epistemological framework for cross-disciplinary spatial research, including socio-spatial studies, political-economic critique, cultural studies, urban planning discourses, and architectural theories. Seminar participants are expected to initiate critical issues and to lead discussions based on the reading materials and specific social/spatial phenomena observed.
DEPARTMENT OF WATER RESOURCES AND ENVIRONMENTAL ENGINEERING

Degrees Offered: Bachelor of Engineering, Master of Engineering, and Ph.D.

Chair: Li, Chi-wang (李奇旺)

The Department

The department was founded in 1964 as the Department of Water and Soil Conservation. In 1988, the department was renamed as the Department of Water Resources and Environmental Engineering. Currently the department offers an interdisciplinary undergraduate program that consists of joint programs in the fields of water resource and environmental engineering. The graduate programs offer M. Eng. and Ph.D. degrees.

The undergraduate program covers a broad range of knowledge required for water resources and environmental majors. The program is designed to equip students with a solid foundation for engineering practices and for further study in the related fields.

The M. Eng. program provides graduate students with both the professional knowledge for engineering professionals and research capability in the related fields. The Ph.D. program is designed to prepare students to become professional engineers or researchers who can perform both academic and practical engineering researches.

The department's laboratories and facilities accommodate the fields of Fluid Mechanics, Open Channel Hydraulics, Environmental Engineering and Wind Tunnels. The low-speed wind tunnel is one of the best in Taiwan, with a cross-section of 3.2 meters*2.0 meters and an 18m long test section with a maximum power of 75 hp.

Faculty

Professors
Chiang, Hsu-cherng (江旭程); Gau, Sue-huai (高思懷); Hsu, Chung-chieh (許中傑);
Kang, Shyh-fang (康世芳); Li, Chi-wang (李奇旺); Lu, Po-chien (盧博堅);
Shih, Kuo-kung (施國肱); Yu, Gwo-hsing (虞國興)

Associate Professors
Chang, Li-chiu (張麗秋); Chang, Pao-hsing (張保興); Chen, Luke Jyun-cheng (陳俊成);
Huang, Fu-Kuo(黃富國); Hsu, Tau-being (許道平); Lin, I-chen (林意楨);
Wang, Shih-hong (王士紘)

Assistant Professors
Dai, Hsi-Heng (戴璽恆); Lee, Po-ching (李柏青)

Degree Requirements

1. Requirements for a degree of Bachelor in Engineering:
   Successful completion of 144 credits of courses, including 108 credits of required courses and 26 credits of elective courses. The courses include liberal arts and professional engineering subjects in water resources engineering and environmental engineering.

2. Requirements for a Master’s degree in Engineering (degree offered in 3 fields):
   Minimum number of credits: 31 credits (including 4 thesis credits). The courses include subjects in advanced water resources engineering and advanced environmental engineering.

3. Requirements for a Ph.D. degree (degree offered in 2 fields):
   Minimum number of credits: 33 (including 6 dissertation credits). The courses include advanced theories in water resources engineering and environmental engineering with a required seminar.
Course Descriptions

Undergraduate Courses

E0010 Soil Mechanics (0/3) This course deals with the mechanical behavior of engineering soils when they are sheared or compressed or when water flows through them. Topics include the nature of soil, states of stress and strain in soil.

E0012 Introduction to Air Pollution (0/3) The theory and application of control technology for air pollution such as VOC, NOx, SO2, PM are introduced. The basic theories include combustion, absorption, mass balance, energy balance and mass and heat transfer. The applications include design process for incinerator, catalyst reduction facility, scrubber, activated carbon adsorption, cyclone, ESP and fabric filter.

E0028 Engineering Statistics (3/0) Many engineering problems intrinsically possess the characteristics of regularity or uncertainty. If we need an effective derivation and a precise representation tool on both regularity and uncertainty, then probability and statistics are the suitable methodologies. Since probability is the foundation of statistics, therefore this class puts equal amount of time on both subjects, i.e., probability before the mid-term exam, and statistics after.

E0031 Engineering Graphics (2/2) The basic graphic specifications that include lines, projection, sectional plane, dimension and three-dimensional drawings are introduced.


E0057 Intermediate Hydrology (3/0) Hydrologic design, flood routing, hydrologic models, basic probability and statistics, frequency analysis, hydrologic statistics, and simple linear regression.

E0094 Water and Land Resources (0/2) Hydrologic cycle; global water distribution; water resources in Taiwan; the impact of the urbanization; regional planning; land usage management; sustainable development; ecological consideration in planning.

E0102 Hydrology (0/3) Covering hydrologic processes and analysis related to water quantity, this course is designed as an introductory course and is also related to fluid mechanics.

E0108 Water Resources Engineering (3/0) Hydraulic machinery; hydroelectric power; drainage; flood-damage mitigation; dams; reservoirs.

E0114 Water Resources Planning (0/3) Introduction; planning principles; engineering and economic planning concepts; elements of project formulation and appraisal; mathematical models; analysis of risk and uncertainty; environmental impact assessment; water resources in Taiwan; sustainable development of water resources.

E0120 Engineering Geology (2/0) Topics include the interrelationship between engineers and nature, the change of geological and regional structure at construction sites, classification and feature of rocks and their characteristics in mechanics and various existing activities of earth crust related to engineering design.

E0144 Open Channel Hydraulics (3/0) Continuity equation; momentum equation; energy equation; momentum function; critical condition; uniform condition; gradually varied flow; water surface profile; discharge problem; direct integration method; graphical method; rapidly varied flow; flow measurements.

E0149 Groundwater (3/0) Introduction; physical properties of aquifers and vadose zone; groundwater hydrology; Darcy's law and hydraulic conductive; well hydraulics; soil water in vadose zone; groundwater recharge; groundwater contamination; solute transport by advection and diffusion.

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E0161 Wastewater Treatment Design (2/0) Case study of designing wastewater treatment facility. Designing wastewater treatment plant by integrating the theories of Unit operation processes and wastewater management learned in earlier courses.

E0180 Mechanics of Materials (0/3) Groundwater, reservoirs, spillways, gates and outlet works, pen channels, pressure conduits, hydraulic machinery, hydraulic power, drainage, flood-damage mitigation, planning for water resources development, engineering economics gravity dams, arch dams, buttress dams, earth dams.

E0255 Surveying Lab I (1/0) This course is designed to deal with the measurement of distance, horizontal angle, vertical angle, leveling profile and cross section.

E0300 Fluid Mechanics (0/3) Definition of fluid; property of fluid; density and viscosity; incompressible fluid; static fluid; inviscid fluid; Euler's equation; Bernoulli equation; conservation of mass; conservation of momentum; Navier-Stokes equation; dimensional analysis; modeling; dimensionless parameters.

E0390 Coastal Engineering (0/3) This course is an introduction to wave theories, including the small amplitude wave theory and the non-linear wave theory. The formation of waves is due to the change of water depth shoaling effect. The phenomenon analyses of wave reflection, wave defraction and wave refraction are also covered.

E0588 Surveying I (2/0) Introduction of basic definitions and descriptions of operations in surveying, simplified manner survey measurements and their associated errors, overall topics include; distance measurement, leveling, angle and direction measurement.

E0617 Structural Analysis (3/0) This course introduces students to the fundamental tools for analyzing member forces and deformation of structures. Structural types include beams, trusses and frames, no matter whether determinate or indeterminate.

E0671 Engineering Application of Computer (2/2) This course is an introduction to numerical methods and computer software, with emphasis on their applications to water resources and environmental engineering.

E0851 Reinforced Concrete (0/3) General design concepts in designing concrete structures are provided, with emphasis on the USD method. It serves students as a connection course from structural analysis to structural design.

E0874 Unit Operation of Environmental Engineering (0/2) This course offers an introduction to theories of environmental unit operation processes. Sedimentation, coagulation, filtration, ionic exchange, adsorption, and membrane processes are introduced in this course.

E0879 Introduction to Environmental Engineering (1/0) Topics include environmental issues in Taiwan, environmental issues in the world, air pollution, acid rain, green-house effect, solid waste problems, river pollution, drinking water and municipal wastewater treatment, case studies.

E0962 Computer Aided Design (2/0) This course introduces some sophisticated computer programs and students are required to use these programs to carry out a small project.

E0969 Engineering Mechanics (3/0) Basic principles of solid mechanics are provided. Statistics of rigid bodies, equilibrium problems, analysis of structures, forces in beams, friction, and moments of inertia are the topics of this course.

E1034 Introduction to the Computer (0/2) This course focuses on basic concepts of the computer, learning Microsoft Excel and VBA, programming in C# and MATLAB, and scientific computing and problem solving methods for engineering students.

E1107 Engineering Materials (2/0) This course introduces students of engineering and physics to those areas of mathematics which, from a modern point of view, are considered the most important in
connection with practical problems.

E1143 Environmental Planning and Management (0/3) The role of economics in environment management, modeling the market process, the market approach, command and control approach, environmental decision making, benefit cost analysis.

E1176 Engineering Economics (3/0) Introduction; economic equivalence and interest formula; present worth and annual equivalent worth analysis; rate of return analysis; benefit/cost analysis; depreciation; replacement analysis; inflation and economic analysis; project risk and uncertainty.

E1397 Environmental Microbiology (0/3) Classification of microorganisms, bacteria, observing microorganisms, stain, microbial growth, control of microbial growth, water and wastewater microbiology, eutrophication, soil and groundwater microbiology.

E1472 Water and Wastewater Treatment (0/3) Drinking water standards, effluent standards, drinking water and wastewater treatment processes, coagulation, filtration, disinfection, activated sludge process, bio-film processes, nutrients removal processes, chemical and biological sludge treatment, case studies.

E1583 Introduction to Water Resources Engineering (1/0) Introduction; water resources distribution in the world; hydrologic cycle; dam and reservoir; water supply system; flood control engineering; hydroelectric power engineering; irrigation and drainage; water resources in Taiwan.

E1586 Soil and Water Conservation Engineering (0/2) Soil erosion; basic data inventory and analysis; the relation between soil and water; the land usage management; design of dam, erosion control; the processes of land erosion.

E1588 Introduction of Environmental Toxicology (0/2) This course is concerned with environmental toxic substances, fundamentals of toxicology, influences on the environment, risk assessment, risk characterization, hazard identification and risk management.

E1589 Irrigation and Drainage Engineering (0/2) Introduction; soil-moisture availability; infiltration rate; consumptive use; irrigation method; layout of irrigation system; drainage classification; drainage planning; inlet and outlet works; layout of drainage system.

E1594 Design of Water Resources Engineering (0/2) Hydrologic analysis, hydraulic analysis, structure analysis, design frequency, box culvert, stilling pool dam, detention pond, pipe culvert, seepage control, perforated pipe pump sump; retaining wall, end wall, wing wall, pipe distribution system; surge tank, water hammer, storm drain.

E1595 Hazardous Waste Management and Design (0/3) Current hazardous management regulations are reviewed. This course also introduces hazardous waste site management, risk assessment treatment, and disposal methods, such as physical-chemical methods, stabilization and solidification, thermal methods, land disposal.

E1682 Noise and Vibration Control (0/3) Topics include principles and practice of noise and vibration control. Several applications are discussed.

E1683 Soil Pollution and Remediation (0/2) This course focuses on the fundamentals that support the treatment of a pollutant in soil coupled with design and operational techniques for remediation of contaminated soil, sludge and groundwater.

E1684 Emission of Air Pollution (0/2) The basic atmospheric science and the theory of dispersion are introduced. The application of the air pollution dispersion process is demonstrated. Mobile air pollution and global air pollution problems such as global warming and ozone depletion are discussed.

E1686 River and Flooding Engineering (0/3) River hydraulics, land drainage municipal stream drainage. The design flood, flood-mitigation reservoirs, level and flood walls, floodways, channel improvement, land management and flood mitigation, flood plain management. River hydraulics, land drainage.
E1687 Water Pollution Control (0/3) Water pollution control act, effluent standards, control of municipal and industry wastewaters, investigation of point-source and non-point source pollutants, control of river pollution and eutrophication, groundwater pollution and control, case studies.

E1688 Air Sampling and Monitoring (0/2) This course focuses primarily on methods to accurately collect the air sample and quantify the volume of gas collected. Five sampling categories will be covered. They are sources sampling, ambient sampling, industrial hygiene air sampling, residential indoor sampling, and instrumental analysis.

E1689 Project Management for Engineering and Construction (0/3) Introduction; earth work and equipment; foundation engineering and equipment; reinforcement work; pre-stressed and steel structure engineering; highway engineering; water resources engineering; construction planning and management; quality control; safety and sanitation management.

E1800 Water Supply and Sewerage (3/0) Water supply quality and quantity forecast and requirements. Principles of hydraulic design of water supply system and sewerages collection system. Strom water collection and system design; Principles involved in designing pumping stations.

E1801 Applied Fluid Mechanics (3/0) Viscous flow; potential flow; friction factor; moody chart; laminar boundary layer; turbulent boundary layer; power law; drag force and lift force; drag and lift coefficients; pressure coefficients; displacement and momentum thickness.

E1901 Water Quality Analysis Lab I (1/0) In this course, students learn and apply current standard methods for water quality analysis. Water quality parameters such as BOD, COD, DO, and SS are covered.

E1902 Water Quality Analysis Lab II (0/1) In this course, students learn and apply current standard methods for water quality analysis. Water quality parameters such as N, SVI, hardness, and free chlorine are covered.

E2052 Solid Waste Management (0/3) This course is an introduction to integrated solid waste management systems which include legislation, sources, fundamental characteristics, collection and transportation, pretreatment, transformation, final disposal, and resource recovery and reuse.

E2175 Application of GIS for Engineers (0/3) Basic concepts of database are introduced. By using ArcView 9.x as a tool, the instructor explains the data management (ArcCatalog), data frame, and establishment of data layer. The usage of spatial data, metadata, spatial analyses is introduced.

M0153 OR Modeling Approach (2/0) Linear and dynamic programming, the simplex method, dynamic programming, project management with PERT/CPM, game theory, decision analysis Markov chains, decision analysis.

S0251 Foundation Engineering (2/0) The science and art of applying the principles of soil and structural mechanics together with engineering judgment (the art) to solve the interfacing problem.

S0288 General Chemistry (2/0) This course concerns ozone depletion, global warming, new energy sources, nutrition, genetic engineering and polymer. Everything covered in the course is closely connected to chemistry.

S0289 General Chemistry Lab (1/0) This lab course focuses on the acid-base titration preparation of ethyl alcohol, the exaction of caffeine, polymer synthesis paper chromatography of amino acid and synthesis of aspirin.

S0343 Environmental Chemistry (3) Fundamentals of aquatic chemistry (including acid/base equilibrium, precipitation and dissolution, gas/liquid transfer, oxidation/reduction) organic and inorganic chemistry, and water quality analysis.

S0483 Environmental Ecology (0/2) This is an introduction to the ecology, environments and the relationship between them. The course includes the problem of population, ecological theories, the
circumstance of environmental pollution and protection, and the tendency of sustainable development.

Master's Program

E0108 Water Resources Engineering (0/3) Pressure conduit, hydraulic structure, weir, hydraulic drop, hydraulic jump, backwater, sedimentation, river pollution, water resource system, flood hydrology, flood routing, sediment routing, optimization, flood control, application of dynamic force.

E0202 Solid Wastes Treatment (3/0) An advanced discussion about non-hazardous solid waste management includes the perspective, legislations, characteristics of wastes, collection and transportation, pretreatments, transformations, final disposal and resource recovery and reuse.


E0428 Advanced Hydrology (3/0) This course deals with the theory of extreme value and frequency analysis.

E0434 Advanced Open Channel Hydraulics (2/0) Basic equations for unsteady channel flows; the method of characteristics; simple wave; dam breaks; sluice gate operations; transition for supercritical flow; flood wave; diffusion wave, numerical method. (characteristic line and finite difference)

E0440 Advanced Fluid Mechanics I (0/3) A study of streamfunction and velocity potential, ideal flows in plane, axis-symmetric and three-dimensional ideal flows, applications to inviscid flows.

E0441 Advanced Fluid Mechanics II (0/3) This course offers a study of conservation equations for viscous compressible fluids and includes applications to Newtonian viscous flow, vorticity dynamics, flows at moderate Reynolds numbers, low Reynolds numbers flows, boundary layers.

E0740 Engineering Measurements (0/2) Application of electronic instrument systems; measuring device; manipulation, transmission, and recording of data.

E0767 Numerical Analysis in Fluid Dynamics (0/3) Gauss elimination method, Gauss-Jordan method, power method, characteristics method, stability and convergence, finite difference method, finite element method, nonlinear system, Runge-Kutta method, shooting method, numerical differential, numerical integral, Newton-Raphson method.

E0976 Water Quality Management (3/0) Topics include water pollution in Taiwan, water resource protection rules, sources of pollutants, investigation of point and non-point pollutant sources, reduction and control of pollutant sources, water quality models, case studies.

E0977 Biological Treatment (0/3) Active sludge process; biochemical kinetics; oxygen transfer; trickling filter; anaerobic digestion; aerobic digestion; solid handling.

E0980 Mechanics of Sediment Transport (0/2) Properties of sediment; erosion of sediment; suspension of sediment; initiation of solid particle motion, analyses of bed load, suspended load and total.

E0984 Air Pollution Meteorology (0/3) This course is an introduction to atmospheric structure and dynamics, micrometeorology and planetary boundary layer, turbulent diffusion, and air quality models.

E1000 Drainage Design and Planning (0/2) Pond design, highway drainage, urban drainage, land drainage, open channel design, culvert drainage, unsteady non-uniform flow, dynamic wave model, diffusion wave model, kinematic wave model, drainage case study, study of the factor of safety.

E1023 Computer Applications in Environmental Engineering (0/2) Integrated environmental design, data management, and problem solving skills with computer tools and techniques. Computing and numerical methods, equation solvers, graphical analysis and scientific visualization, EPA and USGS software.
E1025 Environmental System Analysis (0/3) Probability functions, random variables, densities and distributions; special distributions; estimation hypothesis testing; normal distribution; two-sample problem; goodness-of-fit tests; regression, project management with PERT/CPM.

E1089 Environmental Toxicology (0/2) This course concerns toxicity test, dose-effect relationship, biotransformation, acute and chronic effects, toxicity absorption, distribution, elimination, risk assessment and management, exposure and monitoring.

E1123 Oceanic Wave Theory (0/2) An introduction to wave theory, including small amplitude wave theory and non-linear wave theory. The formation of waves due to the change of water depth effect. The phenomenon analysis of wave reflection, wave defraction and wave refraction.

E1132 Water Resources System Planning and Analysis (0/3) The concept and methodology of system approach are first introduced. Then practical application in water resource planning is given by case studies.

E1144 Environmental Instrument Analysis (0/2) This course focuses on environmental analysis using chemical instruments, including metal analysis by atomic absorption, atomic emission, inductively coupled plasma spectroscopy, and ion chromatography. Chemical analysis for trace organic compound by gas chromatography, high performance liquid chromatography, supercritical fluid chromatography and capillary electrophoresis are also covered.

E1162 Aquatic Chemistry (3/0) Topics include: principles of chemical equilibrium; the effect of chemical interactions of domestic and industrial waste effluents on natural water system; chemical principles involved in the treatment of water and wastewaters.

E1165 Hazardous Waste Management (0/2) This course focuses on management planning, definition and characterization, source, transportation and storage, treatment and disposal method, minimization and recycling, permitting process, site remediation, and legal mechanism of hazardous waste.

E1225 Computational Hydraulics (2/0) Introduction; mathematical formulation of physical process; boundary and initial conditions; solution techniques; finite difference schemes; model calibration and data needs; one and two-dimensional model in rivers; two-dimensional model in free surface.

E1336 Ground water hydraulics (3/0) Occurrence of ground water; ground water movement; inflows and ground water; governing equations; steady and unsteady flows in a confined saturated aquifer; steady and unsteady flows in an unconfined saturated aquifer.

E1523 Air Pollution Control Engineering (0/3) Advanced theories and applications of control technology for air pollution such as VOC, NOx, SO2, PM are introduced. The basic theories include combustion, absorption, mass balance, energy balance and mass and heat transfer. The applications include design process for incinerator, catalyst reduction facility, scrubber, activated carbon adsorption, cyclone, ESP and fabric filte.

E1625 Environmental Modeling (0/2) The theory of pollutant transport process is introduced. The application of the pollutant transport for determining the fate and the transport of pollutants among water, air, and soil, sediment and suspended particulate is demonstrated.

E1627 Environmental Organic Chemistry (0/2) This course concerns how molecular interactions and macroscopic transport phenomena determine the distribution in space and time of organic compounds released into the natural environment. Emphasis is placed on how to utilize the structure of a chemical to deduce that chemical's physical properties and reactivity and on quantification of process at each level.

E1683 Soil Pollution and Remediation (0/2) Topics include soil pollution control act, soil chemistry, soil physical, soil pollutants, transport and fate of pollutants within soils, adsorption and absorption of pollutants, bioremediation technology, chemical remediation technology, case studies.

E1747 Environmental Decisions and Management (0/2) Topics include environmental public policy
development, economic criteria, efficiency, cost-effectiveness, allocation efficiency, multi-objective decision problems, utility theory concepts, risk analysis.

**E1764 Environmental Sampling and Monitoring (0/2)** This course focuses on environmental sampling techniques and devices for sampling different matrices, including air, water, soil, sediment and stack, and preservation techniques for volatile organic compounds, semivolatile organic compounds in water samples.

**E1854 Ground Water and Ground Water Pollution (0/2)** Topics include: darcy's law; well-flow system; unsaturated flow; mass transport in saturated media; mass transport in the vadose zone.

**E2018 Sediment Transport (0/3)** Fundamentals; mechanical properties of the flow; dimensionless expression of the two-phase phenomenon; the beginning of sediment transport sediment transport rate; distribution of suspended load.

**E2098 Watershed Management (0/3)** Planning and analysis of water resource systems, water resources planning and management, introduction of water resource policies, and introduction of hydraulic engineering projects.

**E2099 Air Quality Modeling (0/3)** This course introduces numerous air quality models, including Gaussian models, Lagrangian models, and sophisticated grid models for urban and regional air quality.

**E2594 Risk and Decision Analysis (0/3)** Objective structure, tradeoffs under certainty, expected utility theory, decision tree, risk assessment technique, probabilistic risk assessment.

**E2660 Water Resource Management (0/3)** The water resource project consists of constructed facilities and other measures that control, utilize, or limit the use of water. Water resource management includes planning, construction and operation of the water resource projects. The general process and detailed methodologies employed in water resource management are discussed in the course.

**E2661 Air Quality Management (0/3)** Introduction to air quality management system, emissions inventories, stack sampling, monitoring of air quality, applications of air quality models, environmental damage assessment, technical measures, costs and benefits analysis, policy instruments, air quality improvement action plan.

**E2684 Physical and Chemical Treatment Processes (0/3)** Topics include coagulation, filtration, ion exchange, disinfection, ozonation, advanced oxidation process, adsorption, membrane filtration, chemical oxidation, water reuse technology, drinking water and wastewater advanced treatment, concentrating, dewatering.

**S0481 Environmental Microbiological (0/3)** Topics include: basic microbiology; microorganisms growth; microorganisms control; water and microorganisms; soil and microorganisms pollution control and microorganisms.

**T0140 Seminar (1/1)**

**Ph.D. Program**

**E0046 Industrial Wastewater Treatment (0/3)** This course reviews the basic and advanced topics in chemical treatment methods. Current research on the advance of industrial wastewater treatment is covered.

**E0149 Ground Water Analysis (0/3)** Topics include: occurrence; groundwater hydraulics wells; yield; artificial recharge; groundwater quality.

**E0179 Stochastic Hydrology (0/3)** Stationary and non-stationary time series models, model selection and identification, diagnostic checking, seasonal time series model, and signal detection.

**E0501 Statistical Hydrology (3/0)** Applied probability and statistical methods, hydrologic frequency analysis, selection and evaluation of parent distribution, parameter and quantity estimation, and
probability distribution family.

E1005 Turbulent Flow (0/3) Study of turbulent transport of momentum and heat, the dynamics of turbulence, boundary-free shear flows, wall-bounded shear flows, statistic description of turbulence, turbulent transport, spectral dynamics.

E1081 Perturbation Theory (0/3) Straightforward expansions and sources of non-uniformity; the method of coordinates; the method of matched and composite asymptotic expansion; variation of parametric boundary-free shear flows; wall-bounded shear flow.

E1130 Special Topics of Water Resources Engineering (0/3) This course addresses advanced topics in water resource engineering, flexible to suit the needs of individual Ph.D. students.

E1272 Computational Fluid Mechanics (3/0) Mathematical description of physical phenomena; discretization methods; heat conduction; convection and diffusion; calculation of the flow field; simulation of heat and mass transport; cases study.

E1330 Special Topics in Air Pollution (3/0) Urban and regional air quality models, mesoscale meteorology models, mathematical modeling for tropospheric ozone, acid rain and secondary aerosol.

E1416 Environmental Decision Methods (0/3) Multi-objective decision concept, scales of measurement, utility theory, expected utility theory, direct assessment of multiattribute utility function, the ELECTRE method, methods for generating noninferior solutions, weighting characterization, the surrogate worth trade-off method.

E1417 Special Topic in Hydrologic Analysis (0/3) Basic probability and statistics, simple and general linear regression, correlation analysis and nonlinear regression, generalized unvaried time series analysis in hydrology, multivariate time series analysis.

E1418 Solid Waste Landfill (3/0) An advanced discussion of the planning and design of the landfill, which includes the biological theory, leachate handling, gas production and utilization, site reclamation, ashes landfill, and seashore landfill.

E1748 Sludge Management (0/3) An advanced discussion about water and wastewater treatment sludge management, which includes the sources and characteristics, thickening, stabilization, disinfection, conditioning, dewatering, drying, incineration, melting, solidification, and utilization.

E2743 Resource recovery and reuse (0/3) An advanced discussion about the technologies and management of resource recovery and reuse from municipal solid waste, industrial waste, agriculture waste and incinerator ashes.


E1853 Environmental Risk Analysis (0/3) Policy analysis versus natural science, philosophical analysis, an example of reactor, safety, the nature and sources of uncertainty, statistical estimation, human judgment of uncertainty, techniques for encoding probability, large and complex models.

E2020 Chemistry for Environmental Engineering (0/3) Toxic chemicals in drinking water, disinfection by-products, toxic chemicals in wastewater, chemical reaction in advanced oxidation processes, chemical kinetic reactions, acids and bases reactions, reduction and oxidation chemistry, chemistry of metal-organics complex.

E2099 Air Quality Modeling (0/3) Air pollution meteorology, turbulent diffusion, Gaussian models, Lagrangian models, Eulerian Models, photochemical air pollution, acid deposition.

E2100 Special Topics in Contaminant Transportation Models (0/3) This course reviews a fundamental theory on transportation models of contaminants. Students familiarize themselves with these models through discussion and reading of journal papers related to transportation models of
contaminants.

**E2101 Environmental Utratrace Analysis (0/3)** This course focuses on inorganic trace analysis, sample preparation techniques, organic trace analysis, extraction method, high performance gas chromatography / high resolution mass spectroscopy.

**E2102 Special Topics in Physical-chemical Processes (0/3)** Fenton and photo-Fenton processes, activated adsorption, MF/UF/NF/RO membrane processes, nutrients removal and recycle, reduction and reuse of chemical sludge, water recycle and reuse, chemical processes for soil remediation, case studies.

**E2323 Specific Topics in Aquatic Chemistry (0/3)** This course focuses mainly on oxidation/reduction chemistry, experimental and fundamental electrochemistry, and reading and discussing of journal papers on these topics.

**E2656 Transport Process in Environmental System (0/3)** Topics include: (1) Introduction of macro and micro transport process, (2) Application of energy and rate relationships in homogeneous and heterogeneous systems, and (3) Application of reactor engineering in steady, unsteady homogeneous and heterogeneous systems.

**S0562 Atmospheric Chemistry (0/3)** This course concerns photochemistry, properties of aerosol, organic atmospheric aerosol, wet deposition, chemical transport model and ozone.

**T0140 Seminar (2)**
DEPARTMENT OF MECHANICAL AND ELECTRO-MECHANICAL ENGINEERING

Degrees Offered: B.S., M.S., Ph.D.

Chair: Lin, Ching-bin (林清彬)

The Department

Established in 1970, the Department of Mechanical and Electro-Mechanical Engineering aims to provide opportunities and facilities for advanced study in the fields of mechanical engineering and mechanics, and to further meet the needs of national economic and technological development. In response to the rapid growth in optoelectronic science and technologies and precision machinery, the department was divided into two divisions in 2010: (1) Division of Opto-Mechatronics; (2) Division of Precision Mechanical Engineering. Current research in Division of Opto-Mechatronics covers optical design, optical testing and measurement, micro-optical devices and systems, micro electro-optical-mechanics, projection display technologies, and bio-chips. Current research in Division of Precision Mechanical Engineering covers precision manufacturing, precision machining, materials science and engineering, Micro-electro-mechanical systems, Micro-system-technology, surface science, CAD & CAM, vibration engineering, etc.

The main goals of the graduate program include: to provide training to graduate students in research and development work, to train the instructors of the local junior colleges and promote technology of the local area, and to assist the industry with engineering expertise and promote joint research and development projects.

Faculty

Professors
Chao, Choung-lii (趙崇禮); Hong, Zu-chang (洪祖昌); Kang, Shung-wen (康尚文);
Lee, Tzung-hang (李宗翰); Lin, Ching-bin (林清彬); Liu, Chao-hwa (劉昭華);
Shih, Chien-jong (史建中); Tsay, Huoy-shyi (蔡慧駿); Yang, Lung-jieh (楊龍傑);
Yeh, Fung-huei (葉豐輝)

Associate Professors
Li, Ching-lun (李經綸); Wang, Yin-tien (王銀添); Yang, Jr-syu (楊智旭)

Assistant Professors
Sun, Chung-hsun (孫崇訓); Wu, Chyan-chyi (吳乾埼); Liu, Cheng-Yang (劉承揚)

Degree Requirements

1. Requirements for a degree of B.S. in Mechanical and Electro-Mechanical Engineering:
   Completion of 146 credits of courses, including 102 credits of required courses and 28 credits of elective courses.

2. Requirements for a Master's degree:
   Completion of 30 credits of courses, including 24 credits of required courses and 2 credits of seminars. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

3. Requirements for a degree in Ph.D.:
   Completion of 31 credits of courses, including 21 credits of required courses and 4 credits of seminars. Students are required to pass a qualifying examination within the first two years, publish at least two research papers in any journal listed in Science Citation Index, submit a written doctoral dissertation completed under the supervision of a faculty member, and pass an oral examination.

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Course Descriptions

Undergraduate Courses

E0031 Engineering Graphics (1/1) Graphic instruments and their use; graphic geometry; lettering; orthographic drawing and sketching; pictorial drawing and sketching; auxiliary views; sectional views and conventions; dimensions, notes, limits, and precision.


E0038 Industrial Engineering (0/3) The purpose of this course is to help students understand the general methodology of IE. The content of this course consists of four parts, planning, design, production and management.

E0165 Automatic Control (3/0) This course covers the Laplace Transform, mechanical system modeling, stability of linear control systems, time-domain analysis, root-locus techniques, frequency domain analysis, and design of control systems.

E0180 Strength of Materials (3/0) This course addresses the following subjects: material properties; uniaxial force members; plane stress and plane strain; torsion of circular sections, stresses in beams, deflections of beams, and energy concepts.

E0231 Materials and Metallurgy Testing Lab. (1/0) Tensile and torsion strength test; impact test; Rockwell; Brinell and Vickers hardness test; Fatigue test; microstructure of general and standard test; taking pictures of test specimens.

E0296 Fluid Mechanics Laboratory (0/1) Error estimation; manometers; Pitot tube; Bourden gauge calibration; static water pressure; forced vortex; Reynolds experiment; hydraulic bench; open channel; Venna contracta; impact experiment; Venturi tube; orifice meter; head loss measurement.

E0300 Fluid Mechanics (3/0) Dimensional analysis and similitude, internal incompressible viscous flow, external incompressible viscous flow, introduction to compressible flow, steady one-dimensional compressible flow.

E0445 Intermediate Dynamics (0/3) Principle of impulse and momentum for three dimensional motion of a rigid body; Euler's equations of motion; principle of virtual work; Lagrange's equations of motion; dynamic balancing of rotating machinery.

E0629 Microprocessors (0/3) The objective of this course is to introduce the software and hardware architectures of microprocessor. This course covers 8051 hardware, C language, assembly language, I/O interface, and memory system.

E0671 Engineering Applications of Computers (2/2) This course covers methods for solving single-variable equations, interpolation and polynomial approximation, numerical integration and differentiation, ODE, and linear systems.

E0690 Electrical Engineering and Electronics Lab (1/0) This course offers a series of experiments designed to help students learn the basic principles of electronic devices and gain hands-on experience in their applications.

E0718 Computer Graphics (0/1) The main purpose of this course is to teach students to use Auto CAD and Microstation to draw both two and three dimensional engineering drawings.

E0777 Thermal Engineering Lab (1/0) Steam power plant; heat exchanger; heat conduction unit; thermal conductivity of liquids and gases unit.; natural convection; thermal wind tunnel; CPU Cooler unit.
E0782 Heat Transfer (0/3) This course covers the following subjects: basic modes of heat transfer, conduction, convection, natural convection, forced convection, heat exchangers, radiation, heat transfer with phase change.

E0815 Mechanism (0/3) Motion in machinery, velocity and acceleration analysis of mechanisms, transmission of motion, static and dynamic force analysis, balance of inertial forces, dynamic features of machinery.

E0818 Introduction to Robotics (0/3) The course includes the basic principles of robotics, manipulator kinematics, inverse kinematics, velocity and force transformation, trajectory generation, position and force control.

E2410 Fundamentals of Mechanical and Electro-Mechanical Engineering (0/1) This is a freshman course designed to introduce basic concepts about mechanical and electro-mechanical engineering to beginning engineering students.

E0826 Machine Design (2/2) This course covers basic backgrounds such as mechanics, strength of materials, materials properties, and the application such as threaded fasteners, power screws, rivets, springs, bearings, gears, shafts, clutches, brakes.

E0828 Mechanical Drawing (1/0) This course covers the following subjects: section view; details and assembly drawing; the use of threads, fastener, key, rivet and spring; gear and cam; drawing of piping; welding; jigs and fixtures.

E0830 Manufacturing Processes (0/3) Topics include: processes to change the shape of material; processes for machining parts to a fixed dimension, for joining parts or materials, and for obtaining a surface finish.

E0867 Applied Mechanics: (Statics) (0/2) Fundamental principles, statistics of particles, equivalent systems of forces, equilibrium of rigid bodies, centroids and centers of gravity, analysis of structures, forces in beams and cables, friction, moment of inertia, method of virtual work.

E0722 Circuit Theory (0/3) This course introduces fundamental principles and analysis methods of electric circuits. The contents contain DC and AC circuits, transient and frequency responses of electric circuits, and AC power.

E2235 Computer Program Design (3/0) The purpose of this course is to introduce the programming tools commonly used by scientists and engineers. This course includes the following subjects: (1) Introduction to Programming, (2) Input/Output, (3) File Processing, (4) Decisions and the IF Statement, (5) Repetition and Loops, (6) Arrays, and (7) Functions and Subroutines.

E2156 Intermediate Strength of Materials (0/3) (1) to teach students how to study mechanics. (2) to introduce solutions of simple structures made of linear elastic materials. (3) to introduce failure modes include yielding, fatigue, and buckling.

E0868 Applied Mechanics II: (Dynamics) (3/0) Kinematics of particles, kinetics of particles, Newton's second law, energy and momentum methods, systems of particles, kinematics of rigid bodies, kinetics of rigid bodies, introduction to mechanical vibration.

E0902 Logic Design (3/0) This course covers the number systems and operations, logic gates, Boolean algebra, Karnaugh maps, combinational logic analysis, sequential logic and some logic devices.

E0961 Electronics (3/0) This course covers semiconductors and diodes, bipolar junction transistors, field-effect transistors and power electronics, operational amplifiers, integrated circuit electronics, digital logic circuits, and digital systems.

E1034 Introduction to Computers and Programming (2/2) Information technology, personal productivity tools, hardware and communications, information systems, technological trends, problem solving with Fortran and computer-aided design.
E1559 Mechatronics (0/3) This current course introduces each part of the control system and integration of the following parts: (1) electromechanical components (2) interface circuit (3) mechanical parts, and (4) feedback signal processing.

E2067 Control System Design (0/3) This is an advanced level program of automatic control. This course introduces control designs in frequency domain or state space methods. Topics include: frequency response of a linear system, control design by frequency response method, state variable models, and state feedback control.

E2157 Application Of Industrial Materials (3/0) The course is organized into three parts: (1) focuses on manufacturing, property and application of back light modulus; (2) focuses on manufacturing, property and application of fixable display, (3) manufacturing, property and application of optical films, and (4) manufacturing, property and application of white light LED.

E3119 Energy And The Environment (0/3) This course introduces the fundamental relationship of energy use and environmental issues, pollution control technologies and waste management strategies and reviews the current development of energy and renewable energy technology in the world. The essence is to emphasize the importance of finding the equilibrium between technology and environmental protection.

M0022 Engineering Economics (3/0) This course introduces concepts and theories of Engineering Economy. The tools can be used in making decisions. The areas applied include production industries (e.g. IC packing, TFT-LCD, Notebook, machinery and Mechatronics), bio-tecs and bio-medical industries. Decision making & risk control are studied and practiced.

T0994 Key Issues In Career Planning (1/1) The purpose of this course is to help students to develop logical thinking ability, problem solving skills, and techniques of expression. Logical thinking ability is developed by reading technical papers, problem solving skills are gained by solving engineering problems, and training in expression is performed in writing reports.

E1108 Workshop Practice (1/1) The first topic is about woodworking, the second metal filing, the third metal removal processes, especially for turning, and the final the welding process.

E1197 Dynamic Systems (0/3) Topics of this course include: translational and rotational mechanical systems, electrical systems, analytical solution of linear models, The Laplace transform and transfer function analysis, electromechanical systems, block diagrams, and computer analysis.

E1277 Fundamentals of Mechanical Vibrations (3/0) Dynamics, oscillatory motion, free vibration, energy methods, forced periodic vibration, initial conditions and transient vibration, damping, damped forced vibration, two degrees of freedom, nonlinear vibration.

E1503 Principle and Application of Sensors (0/3) This course is an introduction to basic principles and applications of sensors. Optical sensors, LVDT, thermal sensors, strain gage, piezoelectric sensors, ultrasonic sensor, and load cell are covered.

E1529 Special Topics in Mechanical Engineering Practice (1/1) Students need to integrate all the knowledge from previous courses in ME. There will be several research groups, each of which has its own research topic. The work must be completed in a year.

E1558 Computer Aided Analysis of Machinery (0/3) Vectors and matrices; computational linear algebra; kinematics and kinetics for planar mechanisms; modeling of planar mechanisms; connections; rolling motion; numerical methods for systems of ordinary differential equations; computer programming and software analysis.

E2291 Microprocessor Applications Lab (0/1) This course conducts a series of application experiments of microprocessor. The applications include timer, counter, serial port, external memory, external I/O, ADC, DAC, 8255 interface.
E3087 History of Machine Science & Technology (2/0) This course provides an introduction to the machinery development of human history to inspire or motivate the students to devote themselves to the field of mechanical engineering.

E3088 Materials Science and Engineering (0/3) This course is organized into four parts: Part I: Fundamentals; Part II: Microstructure Development; Part III: Property of Materials; and Part IV: Materials Synthesis and Design.

E3125 Electronic Packaging (0/2) This course provides an introduction to the electronic packaging issues of semiconductor industry with a practical manner.

S0434 Engineering Thermodynamics (2/2) Concepts and definitions; properties of a pure substance; work and heat; the first and the second law of thermodynamics; entropy; power and refrigeration cycles; thermodynamics of mixtures; thermodynamic relations; chemical relations; phase and chemical equilibrium.

E0158 Intro. To Finite Element Method (0/3) The purpose of this course is to introduce the numerical method to solve practical physical problems. The contents of the course include the stiffness method, truss element, beam element, frame element, the plane stress and plane strain stiffness equation.

E0156 Finite Element Methods (3/0) Matrix structure analysis of trusses, beams, and frames; energy principles; shape functions; stiffness matrices; load vectors; assembly of system equations; boundary conditions; isoparametric formulation; constraints; axisymmetric problems; plates and shells; dynamic problems.


E0445 Advanced Dynamics (0/3) Angular velocities and accelerations in moving reference frames; Eulerian angles and Euler parameters; constraints; Newtonian kinetics; energy principles; Lagrange's
equations; constrained systems; multibody systems; modeling of dynamic systems.

E0458 Advanced Mechanical Engineering Design (0/3) Mechanical engineering design process, specification development/planning, conceptual design, product design, computerized mechanism design, mechanical design with FEM, probabilistic mechanical design, computer aided optimum design, paper reading and discussion.

E0480 Control Theory (0/3) This course offers a review of various topics in undergraduate control courses, topics in recently developed control theory, including analysis of control systems in state-space, design of control systems by state-space methods.

E0629 Microprocessor (3/0) Objectives of this course include: 1. To teach the architecture of an micro-controller, 2. To show that a micro-controller can be programmed and be useful in everyday life applications, 3. To introduce the basics of electronics-design by constructing various interfaces of the micro-controller with other devices, and 4. To give the students basic skills in electronic design and micro-controller programming.

E0754 Elasticity (3/0) Stress; strain; compatibility condition; stress-strain relation; displacement formulation and stress formulation of elasticity problems; St. Venant theories of torsion and bending; general curvilinear coordinates; 2-D and 3D elasticity; Green's function approach.

E0784 Convection Heat Transfer (0/3) Laminar boundary layer flow, laminar duct flow, laminar natural convection, natural convection in enclosures, transition to turbulence, wall turbulence, mass transfer, principle of convection through porous media, numerical methods in convection.

E0825 Mechanical Vibrations (3/0) This course focuses on the analysis of mechanical system vibrations. Topics will include dynamics of discrete systems, undamped and damped n-degree-of-freedom systems, and approximation of continuous systems.

E1286 Advanced CAD/CAM (0/3) Mathematical elements for computer graphics; CAD software packages; CAM software package; numerical control in NC; CNC/DNC; flexible manufacturing system.

E1287 Advanced Topics in Robotics (0/3) This course covers a number of advanced topics in robotics: kinematics geometry of manipulator, analysis of walking machines and multi-fingered gripper, dynamics, trajectory planning, and position, force and hybrid control schemes.

E1369 Manufacturing Principle of Molds and Dies (0/3) This course presents the traditional methods and non-traditional manufacturing methods for producing dies and molds. A final project on related topics is to be submitted and presented.

E1372 Principle of Optimal Design (0/3) Mathematical formulation, conditions for optimality, linear programming, unconstrained optimization, constrained optimization, approximation techniques and sensitivity analysis, duality, Integer and discrete programming, multi-criterion optimization, fuzzy optimization, paper reading and discussion.

E1422 Mechatronics (0/3) This course provides students with a basic conception of mechatronics. Topics include: system modeling and analysis of mechatronic system; mechanism design; implementation of control algorithms; introduction to servomechanic drives and sensors.

E1443 Micromanufacturing (0/3) Introduction to MEMS, photolithography, silicon micromachining, thin films, wet etching, dry etching, surface micromachining, electrochemical etching of silicon, wafer bonding, excimer laser micromachining, LIGA, micro EDM.

E1991 Vibration Control of Mechanical Systems (0/3) This course provides the concepts and analytical methods for the vibration control of mechanical systems. A review of free and force vibrations of mechanical systems, both un-damped and damped, sensors, actuators, passive control, active control adaptive control, and case studies will be covered in this course.
E2124 Engineering Materials (3/0) This course includes seven main sections: structure of materials; properties of materials; metals; non-metallic materials; semiconductors; composites; and material selection.

E2245 Digital Control System (3/0) General introduction to digital control systems, z-plane analysis, design of a digital control system, state-space analysis, pole placement and observer design, optimal control, and Kalman filtering theory.

E2434 Fundamentals of microfluid flows and heat transfer (3/0) This course provides the fundamental concept and tools for dealing with heat and fluids flow of microchannels. Contents include: 1. Review of basic equations of viscous flows and heat transfer, 2. Characteristics of microdevices fluids flow and heat transfer, aspects of liquid flows in microchannels, aspects of gas flows in microchannels and the aspect of heat transferr in microdevice, 3. Liquid flow with electrokinetic effects, the derivation of the basic equations, and 4. Selected paper readings.

E2581 Microfluidics (0/3) This course covers the fundamentals of (ideal, viscous and compressible) fluid mechanics as well as the issues scaled down to micrometer range. Four case studies, including viscous damping, squeezing damping, capillary suction, and electro-driven flow, are discussed.

E2626 Fundamental Property of Materials (0/3) This course provides the concepts and application for discussing the properties of material. The content of this course includes electric, magnetic, thermal, dielectric and optical properties.

E2735 Fundamentals to Flat Panel Display (3/0) This course is one of the modified synchronous teaching programs for multidisciplinary education in 6 universities of Taiwan. The content of this course includes an introduction to FPD, basics of polarization optics, liquid crystals, color engineering, projection tech, DLP/DMD, back light module, OLED, PDP, processing/facilities, automatic optical inspection and 3D display.

E2947 Precision Measurement (0/3) This course aims to study the goal and spirit of measurement. At the same time, learning how to use the measurement equipments such as laser interferometer, EDAX, LVDT, FESEM, and AFM to detect and to analyze specimens is also the main direction of this course. Some basic knowledge, including errors in measurement, linear measurement, angular measurement, limits and tolerances, statistical quality control, and CMM machine measurement, will be reviewed briefly.

E3000 Optomechatronic System Design And Integration (0/3) Fundamentals of Optics; Machine vision; Mechatronic elements for Optomechatronic interface; Optomechatronic integration; Basic Optomechatronic functional units; Optomechatronic systems in practice.

E3102 Biologically Inspired Optimization & Design (3/0) The course is a continuing study of engineering optimization. A broad introduction will cover the simulation from biological intelligence. This knowledge is further applied to develop basic evolutionary algorithm for optimization and its application. Some research and modern developments will be covered and discussed in class. Students will learn how to simulate the bio-intelligence as well as to apply it to develop engineering science and algorithm. Each student will be assigned a design project for mastering the biologically inspired optimization & design method.

S0408 Design of Experiments (3/0) The experimental design is a tool for engineers and scientists to use for product design and development as well as process development and improvement. The use of experimental design early in the product cycle can substantially reduce development lead in time and cost, leading to processes and products that perform better in the field and have high reliability. The topics covered in the course include the simple comparative experiments, the analysis of variance, various factorial designs, fitting regression models, response surface methods and robust parameter designs with the aid of computer software.

E1846 Theory and Applications In Metal Forming (3/0) The purpose of this course is to introduce the theory and applications in metal forming commonly used by scientists and engineers. This course includes the following subjects: (1) The Tensile Test and Basic Material Behavior, (2) Tensors and Matrices, (3) Stress and Strain, (4) Standard Mechanical Principles, (5) Elasticity and Plasticity, and (6)
Classical Forming Analysis.

**E1847 Micro-Electro-Mechanical Systems (3/0)** Prof. Chang Liu’s textbook “Foundation of MEMS” (Prentice Hall, 2006) is accessed and taught thoughtfully in this course. Sensors and actuators using electrostatic, thermal, piezoresistive, piezoelectric, magnetic principles are discussed. Applications to polymer MEMS, Bio MEMS, microfluidics, optical MEMS and RF MEMS are also mentioned.

**E2506 Fundamentals Of Robotics (3/0)** This course provides students with some basic conceptions of Robotics. The topics include kinematics and differential kinematics of robots, trajectory planning, robot perception, robot vision, and image processing. The robots concerned in this course include industrial manipulators, wheeled mobile robots, and legged mobile robots.

**E2945 Viscous Fluid flow (3/0)** The contents of the course include the following: vector and tensor calculus, introduction to the continuum fluid, conservation laws, static equilibrium of fluids and interfaces, the navier-stokes equations, unidirectional flows, approximate methods, and laminar boundary layer flows.

**E2063 Ultra-Precision Machining Processes (3/0)** This course covers fundamentals and applications of Precision Machining Processes. Topics such as Optical/Mechanical Metrology System, Precision Machine Tools, Single Point Diamond Turning, Machining of Aspheric/Diffractive Optical Components, Precision Diamond Grinding, Precision Lapping/Polishing, Energy Beam Machining Processes will be addressed and discussed.

**T1433 Research Method (I) (1/0)** This course provides the students with lectures on the various subjects of mechanical and electro-mechanical engineering. The speakers are invited from industry, university, and related research institutes. Students should join discussion and hand in a report for each lecture.

**T1111 Research Method (II) (0/1)** This course provides the students with lectures on the various subjects of mechanical and electro-mechanical engineering. The speakers are invited from industries, universities, and related research institutes. Students should join discussion and hand in a report for each lecture.

**E2626 Fundamental Property Of Materials(0/3)** The course is organized into two parts: (1) focuses on the engineering properties of the various classes of materials. Important topics include: mechanical properties, electrical properties, optical and dielectric properties, magnetic properties, thermal properties; (2) focuses on the interactions between environment and property of materials. Important topics include: liquid-solid reactions, gas-solid reactions, solid-solid reactions and radiation damage.

**E2947 System Identification (0/3)** This course covers fundamentals and applications of engineering metrology. Topics such as Dimensional Metrology, Uncertainty Analysis, Optical Metrology, Surface Metrology, Machine Tool Metrology, Interferometers, Image analysis / Fringe analysis, Diffraction / Photoelectric detectors will be addressed and discussed.

**Ph.D. Program**

**E0455 Advanced Numerical Analysis (0/3)** The primary content centers on the learning of simulation techniques and advanced curve-fitting methods applied in engineering. Selected technical papers in Int. J. Numerical Meth. Eng. are utilized for further reading and discussion.

**E1997 Advanced Computer Aided Engineering Analysis (0/3)** The first part covers finite element analyses of composite materials, heat conduction, fluid mechanics, and electromagnetic systems; the second part covers kinematic and dynamic analyses of planar and spatial mechanisms.

**E2001 Advanced Micro Electromechanical System (0/3)** Silicon micromachining, nonsilicon micromachining, nonlithographic processes; Mechanical issues of MEMS structures; Driving mechanisms for microactuators, including electrostatic, thermal, and fluidic actuation; and study of MEMS products and state-of-the-art research.

**E2119 Precision Machine Design (0/3)** Accuracy/repeatability/resolution, error budget,
semikinematic design, linear slides, flexure, aerostatic/hydrostatic bearing, drives, sensors and transducers, metrology system, machine structure.

**E2207 Control of Electric Machinery (0/3)** This course covers the modeling of ac motors, principle of field orientation and vector control, power converters, and the dynamics of ac motor drives.

**E2208 Precision Machining of Brittle Materials (0/3)** Mechanical properties of brittle materials, micro/nano indentation/scratch, critical depth of cut, ductile/brittle transition, ductile mode machining, ultra-precision machining of brittle materials, surface integrity/analysis.

**E2233 Precision Mechanical Measurements (0/3)** This course focuses on the measurements and related analysis for precision mechanical systems. Topics will include data acquisition, sensors, calibration of sensors, FFT, and system measurements.

**E2246 Manufacturing of Nanomaterials (0/3)** It is the aim of this course to study the principle and application of nanotechnology in three broad areas: (1) the synthesis of nanoparticles, (2) the production of nanomaterials, and (3) the build up of nanostructures.

**E2247 Optoelectronics Engineering (3/0)** Basic principle of geometric optics, physics optics and laser, laser application of optoelectronics in precision measurement and application of optoelectronics in fiber optics manufacture.

**E2493 Precision Machining of Molds Made of Ultra-Hard Materials (3/0)** Hard mold material has attracted a lot of attention and heavy investment recently, so the focus of this course is on learning how to machine the hard mold materials. The diamond turning, diamond grinding, ELID and energy beam methods will be covered in this course.

**E2507 Heat Pipe Science and Technology (0/3)** The purpose of this course is to make a thorough presentation of the basic and advanced techniques for analyzing various heat pipe systems under a variety of operating conditions and limitations.

**E2578 Nanoimprint (0/3)** Nanoimprint includes: further modifying and optimizing our electron beam lithography system; developing a variety of novel resist technologies, such as inorganic resists, thin single-layer resists, and double-layer resists; and exploring new nanofabrication techniques related to EBL, and application of nanoimprint lithography in fabricating nanoscale electronic, optic, and magnetic devices.

**E2579 Computational Fluid Dynamics (0/3)** This course introduces engineering graduate students to Computational characteristics of the Navier Stokes Equations, Unique fluid mechanics aspects of nonlinear advection terms, boundary conditions, and turbulence models, Grid preparation with Cartesian and unstructured mesh generation software, Hands-on familiarity with FLUENT/GAMBIT and other software products.

**E2581 Microfluidics (0/3)** The first half of this course reviews overall fluid mechanics, including conservation laws, dimensional analysis, potential flows, viscous flows and compressible flows. The latter-half discusses the effect of miniaturization on fluidic problems, e.g. slip phenomena, air damping due to viscous friction/squeezing effect, capillary suction flows, EOF, DEP, EHD flows, etc.

**E2939 Surface Engineering (0/3)** The modification of surface condition is one of the critical concepts in gaining the materials with specific properties. The principle, benefits and shortcomings, hardware design and materials applications of surface modification techniques are introduced in this course. Some basic knowledge, including vacuum technology, plasma theory and surface science, will be reviewed briefly at the beginning of this course.

**E2944 Colloquium on International Technology Research (3/0)** This course addresses professional topics relevant to mechanical engineering science, technology and business. Specific subjects include Natural resources, Energy and Environment, Global Warming phenomena, Change of climate, Power and electricity, Renewable energy, Rapid advances in Asia, Bio-fuels, Business across the Taiwan Strait, US industries and US economy. The course also emphasizes English writing, speaking, and reporting.
E3001 Ecomagination (2/0) This course is designed to broaden students’ technological horizons with the newest “Ecological Imaginations (Ecomagination).” The contents include energy and environment situations in the world, GE’s Ecomagination initiatives, living green, green cars, eco-boat, eco-rigs, wind and solar, biofuels, high-efficiency converters, and carbon-neutral city concept, etc.

E3043 Advanced Engineering Optimization (0/3) This course offers a continuing study of the fundamental principle of optimization that extends its further methodological and technical endeavors in variable forms of optimization problems and multidisciplinary design optimization. Some specific topics cover the mixed discrete variables, multiobjective optimization, fuzzy optimization, approximation method, reliability-based design optimization, structural shape and topology optimization as well as their concerning engineering applications.

E3099 Sensors and Actuators (3/0) Prof. Chang Liu’s textbook “Foundation of MEMS” (Prentice Hall, 2006) is accessed and taught thoughtfully in this course. Sensors and actuators using electrostatic, thermal, piezoresistive, piezoelectric, magnetic principles are discussed. Applications to polymer MEMS, Bio MEMS, microfluidics, optical MEMS and RF MEMS are also mentioned.

E3155 Simulation of the flow field of a Scramjet (2/0) This course is to train students in developing numerical simulation techniques for supersonic flow field of a SCRAMJET engine. One of the objectives is to construct the cold/hot flow field models for a supersonic combustion ramjet engine. The technique can be applied in integrating the design and analysis of aircraft aerodynamics and propulsion system. The 2nd objective is to conduct gas kinetic BGK operator applied in simulating the flow field of forebody/inlet/isolator.

E3154 Dislocation Kinetics (3/0) The course is organized into three parts: (1) focuses on the formation mechanism of ripple dislocation; (2) focuses on the slip dynamic of ripple dislocation, (3) focuses on the climb dynamic of ripple dislocation.

E0684 Applied Optics (3/0) Nano-optics is the study of optical phenomena and techniques on the nanometer scale; that is, near or beyond the diffraction limit of light. This course covers the following topics: propagation and focusing of optical fields, optical characteristics in nano-scale, nano-scale optical microscopy, near-field optical probes, photonic crystals, surface plasmons and examples in applied nano-optics.

E2507 Heat Pipe Science and Technology (3/0) The course includes the following: heat pipe Structure, design and construction, basic principle and theory, heat transfer capacity, origins and research in the world, application and limitations.

E1778 Technical Writing (I) (2/0) offers an introduction to general English technical writing, including format and proper expressions, and requirements are also extended to in-class and homework writing, as well as discussion, to improve students’ capability of English technical writing and expression.

E1779 Technical Writing (II) (0/2) This course offers an introduction to general English technical writing, including format and proper expressions, and requirements are also extended to in-class and homework writing, as well as discussion, to improve students’ capability of English writing and expression.

E3101 Special Topics on Micro Aerial Vehicles (0/3) This course provides an overall briefing of MAV technology from the theoretical background to the hands-on work of the flapping MAV “Golden-Snitch”

E0783 Heat Conduction (0/3) One-dimensional and multidimensional steady heat conduction; transient heat conduction with time-independent and time dependent boundary conditions; transient condition involving heat source and sinks; heat condition during the freezing of binary alloys.

E2673 Grey System (0/3) The purpose of this course is to introduce some of the basic method of gray system applied to data clustering analysis and system modeling and control. In the first half of the semester Gray is introduced as the basic approach (such as: Gray relational analysis, gray and gray
forecasting model), and the latter half of the semester Gray is introduced as the basic method in system analysis and design.

**E2937 Advanced Energy and Environment Control (0/2)** The course offers the most up-to-date and relevant knowledge on environment and energy subjects from world-wide sources. It is designed to lead the graduate students to understand, analyze, and discuss the most important environmental issues impacting our lives.

**E3100 Thermal Radiation (0/3)** Fundamentals of thermal radiation, Radiative Property Predictions from electromagnetic wave theory, Radiative Properties of real surfaces, View factors, Radiative exchange between gray, diffuse surfaces, Radiative exchange between nonideal surfaces, Radiation combined with conduction and convection.
DEPARTMENT OF CHEMICAL AND
MATERIALS ENGINEERING

Degrees Offered: B.S., M.S., Ph.D.

Chair: Yu, Hsuan-fu (余宣賦)

The Department

The Department of Chemical Engineering was founded in 1971 with the mission of providing the intellectual community with high quality education pertinent to the chemical engineering discipline, in response to the explosive growth of petroleum and chemical industries. At that time, a 4-year undergraduate curriculum leading to the Bachelor of Science degree was offered. And since the first class graduated in 1975, the department has dated more than 3000 alumni who have contributed to various industrial areas around the world. The department was renamed the Department of Chemical and Materials Engineering in 2003.

In pursuit of excellence in research, teaching and service in the fields of chemical, bio and material engineering, the graduate programs, MS and Ph.D, were established in 1992 and 2001, respectively. With a wide selection of elective courses and independent research requirements, these graduate programs were designed to provide students with advanced knowledge, technical skills, and methodology that are vital to their future careers either in industry or in academia.

In support of the broad triple-objective (globalization, information-oriented education, future-oriented education) of the University, the teaching and research activities of our department are being restructured and reactivated.

- Computer and software usages are incorporated into our core curriculum. Computer programming techniques are strengthened and applied to chemical process modeling, design, and problem solving.
- A series of courses focusing on material engineering, energy resource, and fine separation process have been developed to make sure their contents conform to the contemporary needs and future trends.
- Research is conducted on the basis of collaboration and teamwork not only within the department but also outside the University. Novel research topics are selected in parallel with the rapidly evolving scientific environment, the foremost of which are nano-technology, biomaterial, and environmental control.

The faculty and the staff of the Chemical and Materials Engineering Department are endeavoring to build the department into an internationally renowned center of excellence for research and education in its field.

Faculty

Professors
Chang, Cheng-liang (張正良); Chang, Hsuan (張煖); Chang, Yu-chi (張裕祺); Chen, Hsi-jen (陳惠仁); Cheng, Liao-ping (鄭廖平); Cheng, Tung-wen (鄭東文); Don, Trong-ming (董崇民); Ho, Chii-dong (何啟東); Hwang, Kuo-jen (黃國楨); Yeh, Ho-ming (葉和明); Yu, Hsuan-fu (余宣賦)

Associate Professors
Lin, Dar-jong (林達鎔); Lin, Gwo-geng (林國廣); Wu, Rome-man (吳容銘)

Assistant Professors
Chang, Chao-ching (張朝欽); Chen, Yih-Hang (陳逸航); Hsu, Shih-chieh (許世傑); Lai, Wei-chi (賴偉淇); Lin, Cheng-Lan (林正嵐)
Degree Requirements

1. Requirements for a degree of Bachelor in Engineering:
   Completion of 142 credits of courses, including 99 credits of required courses and 28 credits of elective courses.

2. Requirements for a Master's degree in Engineering:
   Completion of 27 credits of courses, including 3 credits of required courses and 4 credits of thesis courses.

3. Requirements for a Ph.D. degree in Engineering:
   Completion of 24 credits of courses, including 4 credits of required courses and 6 credits of thesis courses.

Course Descriptions

Undergraduate Courses

E0034 Engineering Mathematics (3/3) Prerequisite: Calculus. This course begins with a detailed treatment of ordinary differential equations. Solution techniques for solving partial differential equations are then introduced. Matrix methods are also included.

E0046 Industrial Wastewater Treatment (0/3) Prerequisite: Permission of the instructor. This introductory course covers the treatment of industrial wastewater by physical, chemical and biological processes, and sludge treatment and disposal.

E0067 Separation Processes (0/3) Prerequisite: Transport Phenomena and Unit Operations II. This course covers application of unit operations principles in designing process separators such as heat exchangers, evaporators, distillation columns, extractors, absorbers and other separation equipment.

E0075 Introduction to Chemical Engineering (3/0) This course covers the broad spectrum of activity in many scientific and humanistic disciplines associated with the profession of chemical engineering. Sample problems having their origin in chemical processing, petroleum refining, pollution abatement, and biomedical systems are presented.

E0080 Chemical Engineering Thermodynamics (3/0) Prerequisite: Physical Chemistry. Study of system properties is due to changes of state for pure substances or mixture. Energy balance and entropy balance in chemical engineering process as well as prediction and calculation of equilibrium state variables are covered.

E0081 Chemical Engineering Equipment (0/3) Prerequisite: Permission of the instructor. This is an introductory course concerning basic structures and principles of equipment used in chemical processes such as transportation of fluids and solids, powder technology, heat exchange, crystallization, evaporation, distillation, and gas absorption.

E0083 Chemical Processes Industries (0/3) The study of technical and economic problems in manufacturing chemicals, their necessary equipment and the uses of chemicals.

E0084 Chemical Reaction Engineering (0/3) Prerequisite: Physical Chemistry. This is an introductory course covering chemical engineering kinetics, design and analysis of ideal reactors, both homogeneous and heterogeneous, isothermal and non-isothermal, and a discussion of non-ideal flow patterns.

E0091 Solar Energy Engineering (3/0) This introductory course emphasizes the principles of solar energy use and provides updated information on the development of solar energy technologies and solar energy applications.

E0131 Biochemical Engineering (0/3) Biochemical Engineering is a senior-level elective course for chemical engineering majors. The course contains three main parts: enzyme-mediated bioprocessing, whole-cell mediated bioprocessing, and downstream processing of bioproducts.
E0136 Petrochemical Industries (0/3) Prerequisite: Permission of the instructor. An introductory course covers the essence and characteristics of petrochemical industries, upstream, midstream and downstream of the petrochemical industries, naphtha cracking, olefins derivatives, and environmental aspects, etc.

E0182 Materials Science (0/3) An introduction to the applied physical and chemical principles of materials, presentation of fundamental types of engineering materials.

E0202 Solid Waste Management (3/0) The objective of this course is to introduce to students the basic idea of solid waste management. The scope of this course includes the following subjects: the evolution of solid waste management, the source, composition, and properties (including physical, chemical and biological properties) of solid waste, the generation and collection rates, the method of pretreatment, the solidification and fixation of solid waste, composting, solid waste incineration, and landfill of solid waste.

E0416 Polymer Engineering (0/3) Prerequisite: Permission of the instructor. Different synthesis of polymerization: step-growth, free radical, ionic, ring-opening and Ziegler-Natta; The characterization of polymers by thermodynamic study or spectroscopic methods; Microstructure of polymers and their mechanical properties.

E0420 Introduction to Polymer Science (0/3) This course offers a study of different classes of polymers, their synthesis and modification, thermodynamic, properties, equilibria, polymerization kinetics, and physical methods of characterization of polymers.

E0596 Process Analysis and Simulation (0/3) The goal of this course is to bring students into contact with the efficient computation tools to examine the overall process, alternative processes, and economics.

E0597 Process Control (0/3) Prerequisite: Engineering Mathematics. This is an introductory course covering process dynamics, computer simulation, command control, and a discussion in measurement and control hardware, and some advanced control strategies.

E0598 Process Control Lab (0/1) Prerequisite: Process Control. This course includes five parts: practice of pressure control system, practice of flow and level control system, practice of temperature control system, practice of DCS simulation, and dynamics of stirred tanks.

E0671 Engineering Application of Computers (2/2) Prerequisite: Introduction to Computer. This is an introduction to the numerical methods for interpolation, differentiation, integration, solution of equation, linear algebra, curve fitting, initial and boundary value problems.

E0803 Material and Energy Balances (4/0) An introduction to the basic principles and calculations in chemical engineering, presentation and discussion of mathematical procedures, material balance, fluid properties, and energy balance.

E0875 Environmental Engineering (0/3) Prerequisite: Permission of the instructor. This course offers an introduction to the general subjects of air, water and solid-waste management. Relationships between the principles observed in natural purification processes and those employed in engineering processes are discussed.

E0896 Introduction to Catalytic Reaction Engineering (0/3) This is an introductory course on heterogeneous catalysis and catalytic reaction engineering. The syllabus includes the adsorption and catalysis of metals and oxides, preparation and characterization of catalysts, and the major areas of application in industry.

E0913 Membrane Separation Technology (0/3) Prerequisite: Transport Phenomena and Unit Operations I, and II. This course offers an introduction to membrane materials, the transport in membranes and the use of membranes for separations processes, such as reverse osmosis, ultrafiltration, microfiltration, dialysis, gas separation, electrodialysis, and pervaporation.
E0928 Special Topics in Thermodynamics (0/3) Prerequisite: some previous exposure to basic thermodynamics and calculus. The subject of this course is advanced thermodynamics with an emphasis on its applications to complex chemical engineering problems. The major elements of interest contain the analysis of system stability, multicomponent phase equilibrium, chemical reaction equilibrium and process thermodynamics.

E1034 Introduction to Computers (2/2) The first part of this course includes detailed descriptions of computer hardware, the information transfer within a computer, and the usage of commercial software packages (word processing, graphics and spreadsheets) and network communication. In the second part, programming skills using FORTRAN and other contemporary languages are presented.

E1046 Special Topics in Transport Phenomena (0/3) Prerequisite: Transport Phenomena and Unit Operation I and II and Separation Processes. This is a comprehensive course on transport phenomena of momentum, energy, and mass in continua. Presentation emphasizes the analytical procedures of the problems.

E1053 Introduction to Chemical Process Safety (0/3) Prerequisite: Permission of the instructor. An introductory course covers toxicology, industrial hygiene, source models, toxic release and dispersion models, fires and explosions, designs to prevent fires and explosions, hazards identifications and risk assessment, etc.

E1056 Creation, Invention and Patent (0/2) This course offers an introduction to the pathway for creation and invention and on how to enhance the ability to create and invent. Also introduced to the learners are the basic concept and practice of how to obtain and protect intellectual property rights such as invention, utility model, design, trademark and copyright in this country and foreign countries.

E1059 Biomedical Engineering (0/3) This course is open to those who would like to advance their knowledge beyond an introductory level of polymer biomaterial science and engineering. The course will present recent polymer applications in biomedical engineering. On completion of the course, students are expected to be able to understand the basic concepts involved in the design control of polymer biomaterials and their applications.

E1099 Transport Phenomena and Unit Operation I (0/3) Prerequisite: Engineering Mathematics. This is an introduction to momentum transfer and its application to fluid mechanics. This course includes the topics in momentum balance, flow in pipes and channels, turbulent flow, multiphase flow, flow of compressible fluids, flow and pressure measurement, liquid mixing, and pumping of fluids.

E1100 Transport Phenomena and Unit Operation II (3/0) Prerequisite: Transport Phenomena and Unit Operation I. This course covers the transport phenomena of heat and mass. Presentations are dealt with the introduction and application of conservation laws (equations of energy and continuity for components in a mixture) in various process conditions.

E1101 Transport Phenomena and Unit Operation I Lab (0/1) Prerequisite: Transport Phenomena and Unit Operation I. There are five parts in this course: determination of efflux time, screen analysis and cyclone separator, fluid flow, frame and plate filtration, and the practice of combining pipeline.

E1102 Transport Phenomena and Unit Operation II Lab (0/1) Prerequisite: Transport Phenomena and Unit Operation II. There are five experiments in this course: Jacket type heat exchanger, shell and tube heat exchanger, thermal conductivity of solids, fluidization and fluidized bed heat transfer, and film evaporation.

E1103 Transport Phenomena and Unit Operation III Lab. (1/0) Prerequisite: Separation Processes. Four experiments are included in this course: batch plate and packed distillation column, wetted wall gas absorption column, liquid-liquid extraction, and packed column absorbers.

E1109 Mathematical Methods in Chemical Engineering (0/3) Prerequisite: Engineering Mathematics. This is an extension of Engineering Mathematics. Emphasis is placed on the formulation and solution of ODEs and/or PDEs resulting from the mathematical modeling and problems encountered by chemical engineers.
E1110 Pollution Control Lab (0/1) Various operations, such as flotation, coagulation, neutralization, sedimentation, electrolysis, ultrafiltration, and rotating biological contactor, are studied to minimize the pollution of wastewater.

E1238 Introduction to Advanced Ceramics (0/3) Prerequisite: Material Science. This is an introductory course on advanced ceramics concerning the properties and application of materials, processing technology, microstructure effects, and measurement techniques.

E1506 Introduction to Membrane Separations (0/3) Prerequisite: Transport Phenomena and Unit Operations I, II. This is an introduction to membrane materials, the transport in membranes and the use of membranes for separations processes, such as reverse osmosis, ultrafiltration, microfiltration, dialysis, gas separation, electrodialysis, and pervaporation.

E1518 Air Pollution Control Engineering (0/2) This course offers an overview of air pollution control philosophies, including laws and regulations and pollution standard. The contents include simulation of air pollutant dispersion and its control, discussion on the strategy of different control technologies for stationary emission source, and the impact of air pollution on global climate and the consequences of international treaties are explored.

E1530 Separation and Purification Techniques in Biotechnology (0/3) This course offers an introduction to the separation and purification of biochemicals that can be made by fermentation or biochemical processes. These separations and purifications are difficult and frequently cost more than the initial manufacture of the biochemicals.

E1531 Management of Radioactive Wastes (0/3) This is an introductory course designed to provide senior students an opportunity to enter the field of radwaste (radioactive waste) management. This course starts from the very basics to prepare students for the radwaste management. The first half of the course will delineate the general knowledge of radiation, and the rest focuses on the practical aspects of radwaste management.

E1544 Introduction to Bioindustry (0/3) This course focuses on the main characteristics of domestic industries and several biotechnology industries which the government is aggressively planning to promote: bulks pharmaceutical chemicals, medicine production, vaccine, biological pesticide, and flowering plant industries.

E1862 Chemical Industry Waste Minimization (3/0) Concepts and methodologies of pollution prevention and waste management are introduced. Particular focuses are on chemical processes, emphasizing emission estimation, life-cycle assessment, waste audits and emission inventory, pollution prevention for both unit operation and flowsheet levels.

E2342 Introduction to Polymeric Materials (3/0) Any large molecule that is formed from a relatively large number of smaller units with covalent bonding is called a polymer. Since the Second World War, polymeric materials have been the fastest-growing segments of the chemical industry. In this course, the basic definition and classifications of polymers will be discussed. Then, a detailed discussion of the synthetic methods and reaction mechanisms will be given. After that, the relationships between the structures and properties of the polymers will be described. Finally, we will talk about the applications of polymeric materials, where there are five major application areas: (1) plastics, (2) rubbers or elastomers, (3) fibers, (4) surface finishes and protective coatings, and (5) adhesives.

E2536 Foundations of Materials Science and Engineering (0/3) The purpose of this course is to introduce students to the basic and applied knowledge of materials. Students will be able to describe the subject of materials science and engineering as a scientific discipline.

E2549 Inorganic Materials (0/3) This course addresses the crystal structures, synthesis, and applications of inorganic materials. Recent developments in relevant topics will also be covered.

E2550 The Physics and Chemistry of Solids (0/3) This course is concerned with the structures and properties of solids. The level is designed to be introductory in nature. The subject matter is divided into three sections: structures and microstructures, reactions and transformations, and physical properties.
E2551 Chemical Engineering Laboratory I (1/0) Prerequisite: Transport Phenomena and Unit Operation I. There are five parts in this course: determination of efflux time, screen analysis and cyclone separator, fluid flow, frame and plate filtration, and the practice of combining pipeline.

E2552 Chemical Engineering Laboratory II (0/1) Prerequisite: Transport Phenomena and Unit Operation II. There are five experiments in this course: Jacket type heat exchanger, shell and tube heat exchanger, thermal conductivity of solids, fluidization and fluidized bed heat transfer, and film evaporation.

E2553 Chemical Engineering Laboratory III (0/1) Prerequisite: Separation Processes. Four experiments are included in this course: batch plate and packed distillation column, wetted wall gas absorption column, liquid-liquid extraction, and packed column absorbers.

E2554 Materials Engineering Laboratory (1/0) The experiment consists of 5 topics. Students would learn the preparation of Materials such as polymer, membrane, microparticles, etc. by virtue of chemical and physical methods. The physical or mechanical properties are characterized afterwards.

E2825 Chemical Process Computer-Aided Design (0/3) This course studies the use of process simulation software, such as Aspen Plus and Aspen Dynamics, for unit operations and process flowsheet design, as well as the uses of various mathematical tools, such as Matlab and Polymath, for data analysis in process design.

E3062 Introduction to Chemical Engineering (3/0) This course covers the broad spectrum of activity in many scientific and humanistic disciplines associated with the profession of chemical engineering. Central problems are rooted in chemical processing, petroleum refining, pollution abatement, and biomedical systems.

M0022 Engineering Economics (2/0) This course includes the following subjects: equivalence and interest formulas; extending equivalence to real world transactions; present worth, annual worth and future worth analysis; rate of return analysis; depreciation; income taxes; inflation and economic analysis.

S0195 Polymer Chemistry (3/0) Topics include molecular weight distribution, Chain polymerization, Step growth polymerization, Stereospecific polymerization, Physical properties and microstructure of polymers, Application of polymers and industrial processes.

S0143 Physical Chemistry (3/3) The basic ideas of work, heat, and energy are introduced. The laws of equilibrium thermodynamics are developed and employed in solving practical engineering problems such as mixing, phase equilibrium and chemical equilibrium. Topics in chemical kinetics are presented with an emphasis on the rate laws and mechanisms of chemical reactions. Quantum mechanics and statistical thermodynamics are briefly introduced.

S0307 Process Design (3/0) Prerequisite: Separation Processes. This course focuses on application of a basic knowledge of the core courses in chemical engineering and economics to the design and operation of chemical processes. Students are required to carry out a design project.

S0415 Instrumental Analysis (2/0) Prerequisite: Analytical Chemistry, Organic Chemistry, Physical Chemistry. This course gives an introduction to the principles of spectroscopic, electrometric, and chromatographic methods of analysis. After taking this course, students should understand methods of sample treatment and preparation, data analysis, various components of instruments, theories and applications of various instrumental methods of analysis.

T0136 Chemical Engineering Research (1/1) Prerequisite: Restricted to chemical engineering seniors.

Master's Program

E0959 Advanced Fluid Dynamics (3/0) Vector and tensor concepts, specifically important in flow analysis, are presented. Basic laws of mass, momentum, and energy transports are to be derived. Solution methods for the following fields are discussed: viscous, potential, creeping and boundary layer
flows. Some discussion covers the non-Newtonian flow behaviors.

**E1235 Advanced Chemical Engineering Thermodynamics (3/0)** Thermodynamic properties of pure materials and mixtures; Criteria of equilibrium for homogeneous and heterogeneous systems; Correlation and estimation of properties, consistency testing and availability analysis of chemical processes.

**E1248 Advanced Chemical Reaction Engineering (0/3)** Analysis of unsteady state reactors, multiphase reactors, nonideal reactors, stability and sensitivity, nonelementary reactions, and special topics of current interest.

**E1363 Principles of Polymer Processing (3/0)** The purpose of this course is to provide the basic background needed by polymer engineers to (1) determine experimentally and interpret the rheological behavior of polymer melts and (2) apply it to analyze flow in processing operations.

**E1366 Chemical Process Optimization (0/3)** This course covers the nature and organization of optimization problems, basic concepts of optimization, optimization of unconstrained functions, linear programming and applications, nonlinear programming with constraints, and applications of optimization in chemical engineering.

**E1435 Advanced Heat and Mass Transfer (0/3)** This course is an extension of transport phenomena on heat and mass transfer. Emphasis is placed on the analogies between conduction and diffusion as well as on convective heat and mass transfer.

**E1606 Ceramic Microstructure Processing (3/0)** This course shows the effects of microstructures on the properties of advanced ceramic materials and discusses the methods of ceramic processing and their effects on the characteristics of ceramic products. Also, the application and importance of the materials phase diagrams on the ceramic processing is discussed.

**E1785 Colloidal Science and Particle Technology (0/3)** This course covers the characterization of colloid and particles, their flow behavior, thermodynamics of surfaces, surface chemistry, particle interaction and coagulation, and their applications in chemical engineering.

**E1786 Advanced Ceramic Powder Synthesis (3/0)** Traditional and unconventional techniques for advanced ceramic powder synthesis are the main focus of this course. The effects of characteristics of the ceramic powder on the performance of final products are also discussed.

**E1817 Advanced Process Analysis and Simulation (3/0)** The objectives of this course are twofold. First, it is an introduction to the principles of model building and skills needed for the application of mathematical models. Secondly, numerical analysis for solving system equations of mathematical models in science and engineering will be introduced.

**E1932 Advanced Polymer Chemistry (0/3)** Mechanisms of stepgrowth polymerization and chain polymerization are expanded in detail. Molecular weight, physical properties, and chemical modification of polymer are discussed.

**E2128 Process Integration (3/0)** This course introduces the concept and methodologies for process heat integration, water integration and waste minimization. Pinch design methods as well as other systematic methods are also taught.

**E2769 Advanced Polymer Physics (0/3)** This course offers detailed discussion on the interrelationships among structure, morphology, and physical and mechanical properties of polymers. Emphasis is placed on discussing the role of configuration and conformation in determining the physical behavior of polymers.

**E3024 Technical Manuscript (1) (3/0)** This graduate course provides the methodological approach in revising the technical manuscript for Chinese students to receive international acceptance.

**E3034 Special topics of material characterization (3/0)** 1. Introduction to analytical techniques of material including spectroscopy (IR, UV), mechanical and physical properties (tensile strength,
viscometer), optical and electronic microscope. 2. Practice of preparation of sample from raw materials; Practice of chemical, physical and morphological measurements.

**E3035 Advanced Thermodynamics of Materials (3/0)** This discipline of materials science and engineering considers the behavior of materials and is concerned with the structure, properties and performance of these materials. Thermodynamics of Materials is a key engineering science which provides a means of quantifying and predicting the equilibrium states of any materials.

**E3036 Selective Topics in Specialty Chemicals (0/3)** Specialty chemicals are characterized as chemicals with special functions. They are sold on the basis of their performance, rather than for their composition. We will focus on several important specialty chemicals, including (1) electronic chemicals, (2) opto-tech-used organic chemicals, (3) materials for fuel cells and solar cells, (4) radiation curable coatings, (5) high performance thermoplastics, (6) nano-chemicals and materials, and (7) biotechnology products.

**E3037 Advanced Electrochemical Engineering (0/3)** The field of electrochemistry includes many different phenomena (e.g., electrophoresis and corrosion), devices (electro analytical sensors and batteries), and technologies (the electroplating of metals and the large-scale production of aluminum and chlorine). In addition to an overview of the basic principles of electrochemistry, the main emphasis here is on the application of electrochemical methods to the study of chemical systems.

**E3038 Applications of Computational Fluid Dynamics Software (0/3)** This subject shows some examples of engineering problems solved by CFD software FLUENT. Students will learn FLUENT to solve their problems.

**E3069 Technical Manuscript (0/3)** This graduate course provides the methodological approach for Chinese students to receive international acceptance.

**T0140 Seminar (1/1)**

**T0993 Seminar II (1/0)**

**T8000 Thesis (4)**

**Ph. D. Program**

**E0091 Solar Energy Engineering (0/3)** This course emphasizes solar applications to buildings, industrial process heat, thermal conversion to electrical energy generation, and evaporative processes. This course is aimed entirely at development of ability to present quantitative methods for estimating solar process performance.

**E0137 Petroleum Process Engineering (3/0)** This course deals with the more traditional chemical engineering education. The following topics will be included: petroleum refining, crude topping, vacuum distillation, catalytic reforming, catalytic cracking, alkylation processes, residue oil conversion, gasoline blending, reformulated gasoline blending, naphtha cracking, derivatives of ethylene/propylene/butadiene, derivatives of aromatics/synthetic gas. Additionally, each individual student should carry out a case study.

**E1362 Process Dynamics and Its Applications (0/3)** An understanding of the process dynamic behavior is important from both the standpoints of process design and process control. While it is easy to design a chemical process based on steady-state considerations in real-world situations, it might be uncontrollable in the light of dynamics.

**E2311 Physical Properties of Particulate Solids (0/3)** Many raw materials and products in the industrial processes, such as ceramic, medical, fine chemicals, material and chemical engineering, are particulate solids. This course introduces the characteristics, physical properties and behavior of systems containing solid particles. The applications in property measurements, fine particle manufacturing, packing of particles, flow through porous media, particle mechanics and rheology of slurries, handling of bulk solids are also described and discussed.
E2313 Chemical Engineering Separation Techniques (0/3) Some unusual techniques not familiar to the chemical engineer are discussed, such as thermal diffusion, zone refining, and membrane extraction.

E2314 Transport Phenomena in Materials Processing (0/2) Phase transformations and interfacial phenomena are typical subjects of interest to materials processing. Transport phenomena play certain roles in these processes, which will be discussed in this course.

E2366 Selected Topics in Polymeric Membranes (0/3) The main topics include: Thermodynamics of Polymer Solutions, Multicomponent Diffusion, Electron Microscopy of Membranes, X-ray Analysis of Membranes, Membrane Surface Modification Using Plasma Polymerization, Composite Membranes.

E2367 Polymer Morphology (3/0) This course conducts detailed discussion on the important subjects of the form and structure of polymer materials. Emphasis is placed on discussing morphologies of crystallized polymers, liquid crystalline polymers, polymer blends, block copolymers, and morphologies associated with processing. The use of optical, electron and force microscopy to investigate polymer morphology is also discussed.

E2368 Colloid Science and Interface Phenomena (0/3) Colloid science and interface phenomena are very important in many industrial technologies, such as ceramic, medical and many fine chemical and material engineering processes. This course introduces the characteristics and the interface phenomena of colloids. Many applications of colloid and surface science are also described and discussed.

E2369 Advanced Mathematical Methods in Chemical Engineering II (0/3) This graduate course covers the theory, properties, and relations to physical problems of partial differential equations. Emphasis is placed on the importance of correct problem formulation through the use of physical reasoning. An attempt to provide a guide of understanding and appreciation on numerical methods is included.

E2370 Polyhyowxy Butyrate PHB (3/0) Polymer Chemical reaction is designated to the modification of polymer, the functionalization of polymeric metericals covers plasma actionation, UV initvation and functional group reaction.

E2371 Select Topics of Membrane Filtration (3/0) Membrane filtration can be applied to the separation of fine particles and/or molecules ranging from submicro to nano scale. In the course, the fundamentals and applications of the membrane filtration processes, including microfiltration, ultrafiltration, nanofiltration and reverse osmosis, are to be stated.

E2373 Biodegradable Polymers (3/0) Biodegradable polymers are certain to increase in importance as environmental contamination and waste disposal problems associated with plastics become more severe.

E2461 Thermodynamics and Kinetics of Polymerization (3/0) In this course, it is assumed that students are already familiar with the concepts and methods of chemical thermodynamics and chemical kinetics. In part I, the basis of thermodynamics of polymerization developed on traditional lines will be considered. Part II presents a brief introduction of the statistical methods employed for analyzing polymerization kinetics phenomena.

E2518 Advanced Separation Techniques in Chemical Engineering (3/0) Some of unusual techniques not familiar to the chemical engineer are discussed, such as thermal diffusion, zone refining, dialysis, membrane extraction and membrane gas absorption. Those separation techniques treated in this course will all be of a moderately advanced level.

E2544 Scaling Concepts in Polymer Physics (0/3) A single chain, Polymer melts, Polymer solutions in good solvents, Incompatibility and segregation, Polymer gels, Dynamics of a single chain, Many-chain systems, Entanglement effects, Calculation methods.

E2834 Special Topic in Membrane Distillation Processes (3/0) A special topic on membrane distillation is a high-purity technique of possibilities. This course will discuss a practical application with emphasis on process description, key unit operations, plant equipment description, equipment installation, safety and maintenance, process control and plant start-up, operation and troubleshooting.
E2844 Special Topics in Solid State Physics (0/3) optical aspects of solids, review of semiconductor physics, detectors and generators of electromagnetic radiation.

E2934 Controlled Drug Delivery (0/3) This course will include the following topics: the historic perspective of drug delivery system; the carrier materials for drug delivery; the membrane-based drug delivery system; the mass transfer and modeling of controlled-release devices.


T0095 Seminar (I) Guest speakers from other institutions and Ph.D. students of the Chemical Engineering department offer sessions in advanced Chemical Engineering and Material Science subjects.

T0096 Seminar (II) (0/1)

T1002 Seminar (III) (1/0)

T1002 Seminar (IV) (0/1)
DEPARTMENT OF ELECTRICAL ENGINEERING

Degrees Offered: B.S., M.S., Ph.D.

Chair: Lee, Wei-Tsong (李維聰)

The Department

Established in 1971 as the Department of Electronics Engineering and renamed as the current department in 1992, the Department of Electrical Engineering offers both regular and evening classes for undergraduate students. Graduate programs for Master's and Ph.D. degrees were respectively commenced in 1993 and 1997. A Master's program of Robotics Engineering was established in 2007.

Currently, the Department has 20 full-time faculty members, all with Ph.D. degrees. Specialized research areas include: microwave communication, signal processing, pattern recognition, neuro-fuzzy systems, automatic control and power systems, VLSI design and electrical circuit systems, computer engineering, semiconductor devices and optical fiber communication systems, wireless communication systems, next generation communication systems, mobility computation, and non-linear and dynamic controls.

Research facilities include the Optical Fiber Lab, VLSI Lab, Automatic Control Lab, Microwave Communication Lab, Parallel Processing Lab, Multimedia Lab, Cybernetics Lab, Signal Processing Lab, and Electrical Motor Lab, etc., in addition to some basic experiment labs.

A minimum of 146, 29, and 24 credits are required for the Bachelor, Master's, and Ph.D. degrees respectively. A thesis is required for both the Master's and Ph.D. degrees. Primarily it has been classified into three major categories for the study, namely, Communication Systems, Control Chips and Systems, and VLSI Design and Computer Systems. For the graduate program of Robotics Engineering, the Intelligent Evolution and Embedded Systems are the two major study categories.

Faculty

Professors
Chiang, Jen-shiu (江正雄); Chiu, Chien-ching (丘建青); Chuang, Po-jen (莊博任);
Hsieh, Ching-tang (謝景棠); Hwang, Chih-lyang (黃志良); Jan, Yih-guan (詹益光);
Lee, Yang-han (李揚漢); Li, Ching-lieh (李慶烈); Wong, Ching-chang (翁慶昌);
Ye, Fun (余繁); Yen, Rainfield Y. (嚴雨田); Lee, Wei-tsong (李維聰);
Chern, Shiunn-Jang (陳巽璋)

Associate Professors
Chien, Cheng-chih (簡丞志); Chou, Yung-shan (周永山); Yang, Chun-liang (楊淳良)

Assistant Professors
Rau, Jiann-chyi (饒建奇); Yih, Chi-hsiao (易志孝); Yang, Web-bin (楊維斌);
Wu, Tin-Yu (吳庭育); Liu, Peter (劉寅春); Chou, Chien-Hsing (周建興);
Tsai, Chi-Yi (蔡奇謬); Shih, Horng-Yuan (施鴻源); Li, Shih-An (李世安)

Degree Requirements

1. Requirements for a degree of Bachelor of Science in Electronics Engineering:
   Completion of 146 credits of courses, including 102 credits of compulsory courses and 22 credits of elective courses.

2. Requirements for a Master's degree in Science:
   Completion of 29 credits of courses studies, including 4 credits of the following compulsory courses: Technical Paper Written and Presentation, Electrical Teaching and Training, Introduction to Intellectual Properties. Students are required to publish at least one technical paper in any conferences or journals, complete a Master's thesis, and pass an oral examination under the supervision of a faculty member.
3. Requirements for a Ph.D. degree in Science:
Completion of 24 credits of courses. Students are required to pass the qualifying examination within the first two years after being accepted into the Ph.D. program, publish at least one technical paper in any journals listed in the Science Citation Index (SCI), and complete a doctoral dissertation, and pass an oral examination under the supervision of a faculty member.

Course Descriptions

**Undergraduate Courses**


**E0122 Semiconductor Devices (0/3)** Semiconductor devices are the key building block of modern-day electronics, including ultra-large scale integration circuits. This course gives a general introduction to semiconductor devices, including PN junction diode, bipolar transistor, JFET and MESFET, and MOSFET. The course is designed for junior undergraduate students who have taken a course in fundamental semiconductor physics or its equivalent.

**E0479 Control Systems (0/3)** Introduction to the analysis and design of control systems from the time-domain and frequency-domain approaches.

**E0505 Introduction to Parallel Processing (0/2)** This course explores topics on parallel processing in a multiprocessor system, including interconnection networks, mapping processes to processors and scheduling, and parallel programming languages, techniques, and environments.

**E0531 Communication Systems (3/0)** Generalized Fourier series, Fourier transform, sampling theory Hilbert transform, linear modulation (AM, dsb, ssb), angle modulation (FM, PM), pulse modulation, multiplexing, probability and random variables, random process and noise, signal-to-noise ratios, noise in modulation system.

**E0534 Communication Electronics (0/2)** The objective of this course is to present a study of digital communications. Primary emphasis is placed on basic pulse modulation, base band pulse transmission, digital passband transmission, error correcting codes, and information theory.

**E0632 Introduction to Microprocessor (0/3)** This course offers a study of software and hardware architectures of the INTEL microprocessors, including software architectures under the protected mode, advanced assembly language programs, memory interface, I/O interface, interrupts and direct memory access. Prerequisite: Computer Engineering Applications I or the INTEL 8086-family Assembly Language Programming.

**E0634 Microprocessor Applications (2/0)** Emphasis is placed on the design of microprocessor-based systems at the board level. A detailed study of the microprocessor interface to memory and other devices is covered. Also included are microprocessor bus transfers, memory system design and interfacing, industry system buses, and microprocessor caches and MMUs.

**E0650 Data Structures (3/0)** This course offers a study of data structures, including stacks, recursion, queues, lists, trees, sorting, searching, and graphs. Prerequisite: Introduction to Computers and C Language Programming.

**E0668 Electronic Materials (0/2)** Topics include: Quantum statistics, crystal structures, thermal properties of materials, band theory of solids, thermoelectricity, polarization factors of dielectric materials, magnetism of materials, magnetic properties of materials, ferromagnetic materials, ferromagnetic materials.

**E0671 Computer Engineering Applications I (2/0)** This course offers a study of the INTEL 8086-
family assembly language programming, including an introduction to computer organization, addressing modes, various instructions and their applications, and program design and debugging. Prerequisite: Introduction to Computers.

E0671 Computer Engineering Applications II (2/0) This course offers a study of numerical analysis, including errors, polynomial interpolation, solution to nonlinear equations, numerical integration, numerical differentiation, numerical linear algebra, computations of matrix eigenvalues, and curve fitting.

E0722 Circuits Theory (3/3) Electric circuit analysis to solve circuits in the time, phaser, and frequency domain in conjunction with computer-aided analysis.

E0756 Image Processing (0/2) This course offers an introduction to digital image processing. Primary emphasis is put on discrete image mathematical characterization, image quantization, image enhancement, image restoration models, geometrical image modification, morphological image processing, edge detection, image feature extraction, image segmentation, shape analysis, image detection and registration.

E0760 Digital Systems Design (2/0) Based on the previous learning of logic design, the course introduces principles and hardware, design of digital computers and microprocessor-based logic systems.

E0902 Logic Design (0/2) Introduction number systems and conversion, boolean algebra, algebraic simplification, applications of boolean algebra, Karnaugh maps, Quine-McCluskey method, multi-level gate networks NAND and NOR gates, multiple-output networks.

E0908 Communication Coding (3/0) This course introduces fundamental concepts of information theory with applications to digital communications. Also covered are the following topics: Entropy, information, and data compression; noisy compression (rate distortion theory); channel capacity; block and convolutional codes and decoding algorithms.

E0926 Advanced Digital Systems Design (0/2) Digital signal processing, digital VAX station, digital communication, digital modulation, digital communication systems, baseband digital communications.

E0961 Electronics (3/3) Electronics I. is devoted to the study of electronic devices and basic circuits. It starts with a concise introduction to semiconductors and PN junction. Then the bipolar junction transistor (BJT) and the MOS transistors are introduced. Electronics II starts with the study of digital electronics. Both MOS digital circuit and bipolar digital are included. Then we study the differential amplifier, in both bipolar and MOSFET forms. Electronics III deals with more advanced topics in amplifier design.

E1034 Basic Concepts of Computer Science (2/2) This course offers an introduction of computer science. We start from the binary system. The main hardware components of computer system such as CPU, Memory, and I/O devices are described. Next, the software system and the programming language -- VB and C/C++ are introduced. In the programming languages, we focus on the modern programming methods -- structured, modularized, object oriented and visualized. Some techniques such as conditional statement, loop statement, and structure/classes are illustrated in this course.

E1042 Testing Systems Analysis (3/0) Semiconductor devices are the key building blocks of modern-day electronics, including ultra-large scale integration circuits. This course gives a general introduction to semiconductor devices, including pn junction diode, bipolar transistor, JFET and MESFET, and MOSFET. The course is designed for junior undergraduate students who have taken a course in fundamental semiconductor physics or its equivalent.

E1200 Fuzzy Theory (0/2) Introduction to fuzzy set, fuzzy relation, fuzzy logic, fuzzy inference and their applications.

E1261 Fiber Devices (3/0) Principle of semiconductor lasers, modulation dynamics, single frequency lasers, fundamental AM and FM noise properties, linewidth, tunable semiconductor lasers, quantum well lasers, electrooptic modulators and switches, detectors, integrated optoelectronic circuits, optical
amplifiers-semiconductor and erbium fiber, low coherence sources-superluminescent diodes, tunable optical filters.

E1283 Electronics Lab (1/0) Basic equipment, RC circuits and SPICE, semiconductor diodes and their applications, BJT and their applications, FET and their applications, power amplifier, etc.

E1285 Signals and Systems (0/3) The objective of this course is to present the technologies of analyzing linear systems. Primary emphasis is placed on Fourier transform, Laplace transform and Z-transform.

E1400 Industrial Control Systems Technology (0/3) This course is an introduction to industrial control system technology, including the concepts, principles, procedures, and computations used by engineers, and technicians to select, analyze, specify, design and maintain all parts of a control system. Emphasis is on the application of established industrial control systems.

E1561 Basic Electric (2/0) This course provides a comprehensive coverage of basic electrical and electronic concepts, practical applications, and troubleshooting. Special emphasis is placed on basic circuit theories to equip students with knowledge for advanced subjects.

E2141 Real-time System Software Design (0/3) This course is a study of the design and implementation of real-time systems especially to meet the requirements of hard real-time applications. Topics include: the survey of typical real-time Systems; the design, implementation, verification, and testing of real-time systems. Both the application level and the system level views are taken.

E2670 FPGA System and SOPC Design (0/3) This course introduces hardware and software designing. It explains the embedded system development process action plan. Key techniques of FPGA and SOPC are first introduced. Then we will introduce how to use device programmer for downloading the finalized codes into memory, use code generation tools, simulator, and IDE. Use of Hardware testing tools is also studied.

E3073 Fiber-Optic Transmission Practices (3/0) Because students might have no previous fiber optics experience, this course presents the fundamentals of several subjects on which the technology is based. These include fibers, optics, communications, fiber optic communications, and, finally, fiber optic test and measurement.

E3090 Graphical Programming Design (3/0) This course introduces the basic concept of LabVIEW for LEGO MINDSTORMS NXT. It will teach students how to create a robot, which is built by LEGO MINDSTORMS NXT component. The basic C++ program language will be taught and used in the NXT. Students can learn about the mechanism design, program design, motor control, and sensor detect.

M0562 LAN (Local Area Network) (0/2) This course covers two major types of networks, a brief concept on network design, different cabling, a basic knowledge of the function of a network card, a brief concept on OSI and 802 networking models, what protocol is, a basic knowledge on access method on the network, the network architectures.

S0058 Semiconductor Physics (3/0) Solid state is the foundation of modern material science and semiconductor electronics. The course is designed to familiarize students with fundamental principles of solids such as crystal structure, thermal properties, band theory, electronic properties, optical properties, etc.

S0337 Electromagnetic Waves (0/2) Maxwell's equations, propagation of electromagnetic wave, transmission line equations, characteristics of transmission lines, reflection and transmission coefficients, standing wave ration, Smith chart, impedance matching, microstrips and digital transmission lines, rectangular waveguides, TE and TM modes, circular waveguides, resonators, optical and dielectric waveguides, parameters and characteristics of antennas, dipole and slot antennas, broad band and array antennas.

S0338 Electromagnetics (0/3) Vector analysis, Coulomb's law, Gauss's law, static fields in conditions and dielectrics, polarization, boundary conditions, capacitance calculation, static electric energy and
force, Poisson's and Laplace's equations, methods of images, boundary value problems, steady current and Ohm's law, resistivity calculation, Biot-Savart's law, Ampere's circuits, magnetic dipoles, magnetization, magnetic circuits, boundary conditions inductance calculation, static magnetic energy and force.

**S0338 Electromagnetics II (3/0)** Faraday's law, electromagnetic induction, Maxwell's equations, electric and magnetic potentials in time-varying fields, boundary conditions, wave equation and its solution, propagation of uniform plane waves in different media, time-harmonic fields, Doppler effect, propagation of electromagnetic energy, Poynting's theorem, normal and oblique incidences on different interfaces, parallel and perpendicular polarizations.

**S0439 Linear Algebra (3/0)** Introduction to the fundamentals of linear algebra, such as systems of linear equations and matrices, determinants, vector space, inner product spaces, eigenvalues, eigenvectors, and linear transformations.

**S0522 Optical Fiber Communication (3/0)** This course is an introduction to optical fiber communications. Primary emphasis is on optical fibers, signal degradation in optical fibers, optical sources, power launching, power coupling, photo detectors, optical receiver operation, digital transmission systems, analog systems, coherent optical fiber communications, advanced systems and techniques.

**Master's Program in Electrical Engineering**

**E0349 Computer Algorithms (0/3)** Computer algorithm is one of the most important topics for researchers in this field. This course will offer students solid background in algorithm designs and analysis skills.

**E0424 Advanced Engineering Mathematics (3)** Mathematical models, computer graphics, boundary-value problems and characteristic function representation, Sturm-Liouville eigenvalue problems, Rayleigh quotient, solution of partial differential equations of engineering science, nonhomogeneous problems, methods of eigen-function expansion, the Dirac delta function and its relationship to Green's function, Green's functions for ordinary differential equations, Green's functions for partial differential equations; Calculus of variations, the Euler-Lagrange Equation, Hamilton Principle, Application to problems from Continuum mechanics, the Rayleigh Ritz method.

**E0442 Advanced Computer Architecture (0/3)** This course introduces computer architecture. First we would like to tell how to find the performance of a computer quantitatively. The instruction set is described. Pipelining, memory-hierarchy design, storage systems, interconnection networks and multiprocessors are very important in the computer architecture, and they are introduced systematically. Students who take this course will have the basic background of the modern computer.

**E0762 Digital Signal Processing (0/3)** This course introduces basic digital signal processing techniques for estimation and detection of signals in communication and radar systems. Topics include: Optimization of dynamic range, quantization, and state constraints; DFT, convolution, FFT, NTT, Winograd DFT, systolic array; spectral analysis-windowing, AR, and ARMA; system applications.

**E0764 Digital Control (0/3)** This course offers a general introduction to the following topics: digital control systems; time-domain and z-domain analysis; frequency domain analysis of digital control. Emphasis is placed on PID controller, phaselead and phase-lag controller. Dead best response design is also covered.

**E0773 Pattern Recognition (0/3)** Pattern recognition is concerned with the classification of objects into categories, especially by machine. Key techniques of statistical pattern recognition are first introduced. Then we will introduce how to apply neural networks in pattern recognition.

**E0938 Optimal Control (0/3)** It is usual to minimize the time of transit or a quadratic generalized energy functional or performance index, possible with some constraints on the allowed control. Pontryagin's maximum principle, which solved optimal control problems relying on the calculus of variation and Bellman's dynamic programming to the optimal control, will be covered.
E1011 Digital Speech Processing (0/3) Topics include: (1) Discrete-time (DT) signals and systems, (2) Sampling theorem and sampling rate conversion, (3) Z transform, (4) DTFT, DFS, DFT and FFT, (5) DT LTI systems: difference equations, frequency responses, signal flow graphs, and some important properties, and (6) Digital filter design fundamentals.

E1015 Digital Filter Design (0/3) This course provides a broad introduction to the field of digital filter design and signal processing. Material includes concept of z-transform, state-space representation and structures. Also covered are Cascade and parallel form structure and implementation, IIR and FIR design principles.

E1060 Computer Aided Simulation (0/3) This course employs various circuit analysis programs to analyze electric and electronic circuits for transient, DC, AC, and Fourier analysis. Also included is the printed-circuit boards layout.

E1063 Parallel Processing (0/3) This course offers a study of various parallel computer architectures. Topics include: interconnection networks; pipelining and superscalar techniques; multiprocessors and supercomputers; multi-vector and SIMD computers; scalable, multithreaded and data flow architectures; and parallel program.

E1093 Neural Network (0/2) The objective of this course is to present a study of artificial neural networks. Primary emphasis is on basic structures of neural networks, learning algorithms and applications.

E1185 VLSI Design (3/0) This course offers a description of the design methodology and MOS circuit concepts to the design of CMOS VLSI circuits. The overall emphasis is on the VLSI design concepts, environments and circuit optimizations. CMOS technology and devices are also shown.

E1185 Digital IC Design (0/3) This course discusses the design methodology and circuit concepts of high performance MOS/bipolar /biCMOS digital integrated circuits. The design optimizations and applications of various new digital integrated circuits are also described.

E1316 Coding Theory (0/3) Topics include: Fundamental bounds of Shannon theory and their application; Source and channel coding theorems; Galois field theory, algebraic error-correction codes; Private and public-key cryptographic systems.

E1318 Digital Circuit Testing (0/3) This course introduces the methods for efficiently testing very large scale IC (VLSI). Here, we first illustrate some common fault models. Based on the models, fault simulation and test (pattern) generation (TG) are introduced. Next, some advanced techniques -- design for testability (DFT) and built-in self-test (BIST) are given in this course. Finally, some special topics such as memory testing, intelligent property (IP) testing and system-on-a-chip (SOC) testing are given.

E1370 Advanced Linear Systems (0/3) This course is intended as a one semester fundamental course in linear systems. It's a 3 credit-hour course for graduate students. The only prerequisite for this course is a course in ordinary differential equations. It's not necessary for students to have had a course in linear systems, though it is perhaps helpful to have an understanding of the concept of the state of a system.

E1389 Intelligent Control (0/3) This course is an introduction to new aspects of self-learning control structure. Neural networks in conjunction with fuzzy decision logic are presented as key enabling technologies to achieve a higher control performance.

E1390 Analog IC Design (3/0) The contents of this course involve those of operational amplifier, comparator, Filter, ADC and DAC. Case studies will be given in this course; some basic circuits and sub systems will be designed, fabricated, and measured.

E1391 Electromagnetic Theory (0/3) Topics include: Generalized Maxwell's equation, EM boundary value problem, Green's function, eigenfunctions expansion techniques, Conservation of EM energy, EM radiation from simple sources, general EM field, Hertzian potentials, Dyadic Green functions.

E1392 Mobile Communication Systems (0/3) The purpose of this course is to initiate the mobile
communication system. Technical concepts are presented in an order that is conducive to understanding general concepts, as well as those specific to particular cellular and personal communication systems and standards.

**E1393 Knowledge Engineering (0/3)** The objective of this course is to present how a neural network can serve as the knowledge base for an expert system.

**E1394 Integrated Circuit Design for Communications (0/3)** This course includes the topics: IC devices and modeling, processing and layout, current mirrors, noise analysis and modeling; Advanced current mirrors, comparator, sample and hold, voltage reference, switched capacitor circuits, D/A and A/D converter, Discrete and Continuous Filter Design, PLL circuit, and oversampling converter.

**E1490 Technical Writing (1/0)** The purpose of this course is to provide students with a fundamental ability to write a technical paper in English. The contents are outlined as follows: (1) the grammar of clarity, (2) the sources of wordiness, (3) controlling sprawl, (4) sustaining the longer sentence, and (5) sentences in context.

**E1496 Fuzzy Control (0/3)** This course covers the following topics: fuzzy sets; operations on fuzzy sets; fuzzy relation and extension principle; fuzzy logic and fuzzy inference; fuzzy systems and their properties; and fuzzy controller.

**E1497 Speed and Position Control of Induction Motor (0/3)** This course attempts to unify the treatment of vector control of induction motor drives by using the concepts of general flux orientation and the feed forward and feedback voltage and current vector control. The new concept of torque vector control is also introduced and applied to all ac motors.

**E1624 High Speed Computer Networks (0/3)** This course introduces the technologies of high-speed networks. Three main topics are covered in this course. The first part introduces the basic operations in traditional local area networks. The second part describes the operations of high-speed networks. The last part introduces the inter-networking technologies.

**E1640 Scattering Theory of Electromagnetics (0/3)** This course is designed to introduce the geometrical theory of diffraction (GTD) and the physical theory of diffraction (PTD). The GTD is an extension of the classical geometrical optics (GO), and it overcomes some of the limitations of geometrical optics by introducing a diffraction mechanism. The PDT extends physical optics to provide corrections that are due to diffraction at the edges of conducting surfaces.

**E1737 Speech Processing (0/3)** This course provides an introduction to the area of speech processing and processing and digital model of speech first. Then, the time domain method and spectral representation in speech processing is introduced. Finally, the topic of linear coding and a discussion of several speech processing systems in the area of man-machine communication by voice are included.

**E1742 Computer Controlled Systems (0/3)** The purpose of this course is to present the control theory that is relevant to the analysis and design of a computer-controlled system, with an emphasis on basic concepts and ideas. The goal of the course is to give a good foundation for design of computer-controlled systems.

**E1746 Introduction to Statistical Communication (2/0)** This course includes the following topics: detection theory, detection of signal in noise, estimation theory, estimation of waveforms, further topics in detection and estimation, application, miscellaneous applications, random variable, simulation and reliability theory.

**E1762 Digital Signal Processing (0/3)** This course introduces the background of discrete time signal processing, including z. transform, difference equation and filter design. The main topics of this course include discrete fourierier transform and its application as cepstral analysis and homomophic signal processing.

**E1787 Computer Network Security (0/3)** Experts in network security are urgently required. The purpose of this course is to introduce the fundamental technique and standards of network security. Through the opening of this course, we aim to offer students a basic skill and knowledge in this area.
E2134 Signal Modulation Systems and Detection (0/3) This is a first level graduate course in digital communications. The course covers digital modulation techniques, including estimation and detection theories. Studies include BPSK, FSK, NFSK, QPSK, OQPSK, MSK, DPSK signalling schemes in AWGN environment, performance and power.

E2329 Mobile Communication System (0/3) This course covers the following topics: the mobile radio signal environment, statistical communications theory, path loss over flat terrain, path loss over hilly terrain and general methods of prediction, effects of system RF design on propagation, received-signal envelope characteristics, received-signal phase characteristics, modulation technology, diversity schemes, combining technology, signal processes, interference problems, signal-error analysis versus system performance, voice-quality analysis versus system performance.

E2803 Stochastic Processes (3/0) The goal of this course is to build an theoretical background for modern communication, control and signal processing systems. Basic ideas of probability spaces, random variables, random processes, convergence of random sequences, important limiting theorems will be introduced. Selected applications such as optimal filtering, queuing chains, spectral estimation will also be discussed.

E2880 Introduction to System-on-Chip Design (3/0) This course covers modern system-on-chip (SOC) design methodology, system modeling and analysis, behavioral synthesis, design verification and test with emphasis on CMOS VLSI technology. Students will be given chances to carry out class projects based on their own interests.

E3133 OFDM Technologies (3/0) This course introduces the basic concept of OFDM in a wireless environment. Performance of OFDM in both AWGN and Rayleigh fading channels will be studied. Some implementation issues of OFDM systems such as channel coding, peak to average power ratio, and synchronization will also be discussed.

T1196 Seminar I (1/0)

T1196 Seminar II (0/1)

T8000 Thesis (0)

Master's Program in Robotics Engineering

E1490 Technical Writing (0/1) The purpose of this course is to provide students with a fundamental ability to write a technical paper in English. The contents are outlined as follows: (1) the grammar of clarity, (2) the sources of wordiness, (3) controlling sprawl, (4) sustaining the longer sentence, and (5) sentences in context.

E2695 Special Topics on Electromagnetics (3/0) This course covers several aspects related to microwave techniques for the investigation of materials and structures in different applications ranging from civil and geophysical engineering to industrial nondestructive evaluation and testing, diagnostics in electronics, and buried object detection. Theoretical and experimental issues are addressed and great consideration is devoted to inversion procedures, both deterministic and stochastic ones.

E2730 Study of High Tech Patents (0/3) This course gives a brief introduction on how to obtain a patent, including patent searching, patent map, patent value and patent writing. Then the course provides the basic concepts to whoever invents or discovers any new and useful process, machine, manufacture or composition of matter.

E2890 Evolutionary Computation (3/0) This course offers a thorough introduction to evolutionary computing (EC), including genetic algorithms, evolutionary strategies, genetic programming, and several evolution-based optimization techniques. It is hoped that students can apply EC techniques to solve real-world engineering problems.

E2895 System Integrated Circuit Design (3/0) SoC is concerned with the power dissipation and performance of modern chips. Key techniques of SoC design are first introduced. Then we will
introduce how to design the low power high speed modern Soc chips.

E3022 Vehicular Network Communication and Application Technologies (3/0) The main goal of the course is to provide an in-depth understanding of the intelligent transportation systems. The ITS includes Global positioning systems, Weather information systems, Real-time traveler information, Traffic and transit management, Traffic signal systems, Incident management, Emergency management, Electronic toll collection and Commercial vehicle operations. We want the students to acquire skills and knowledge which would help them find jobs in this area as well as pursue further research.

E3023 Image Process and Hardware Accelerator Design (3/0) In this course, the architecture of DE2 platform is described first. The specs of LCD touch panel and CMOS sensor are introduced and explained using the Verilog codes. Then we will introduce how to apply FPGA to accelerate the image processing.

E3046 Next Generation Network Management Technologies (3/0) This course provides an introduction to Next Generation Network (NGN), including the protocol architecture of IMS, QoS, Security, Accounting and FMC. We will investigate these topics in this course and want the students to acquire skills and knowledge.

T1196 Seminar I (1/0)

T1196 Seminar II (0/1)

T8000 Thesis (0)

Ph.D. Program

E0773 Pattern Recognition (3/0) This course teaches the basic idea of patent to help students understand legal questions and securities in the study for developing products. Now, a number of countries have set up and executed the patent system and license. A lot of foreign buyers, especially American buyers, ask local factories or sellers to prove the intellectual property rights of their products to make sure they won't get the lawsuit of tort.

E1093 Neural Network (0/3) This course introduces the application of neural network using Neural Network Toolbox 4.0 in MATLAB 6.1. The configuration of neural network includes single-layer, multilayer, radial basis function, self-organized and recurrent neural networks. Various learning algorithms, e.g., back-propagation, 1st order gradient descent, 2nd order gradient descent, are also introduced.

E1391 Electromagnetic Theory (0/3) Topics include: Generalized Maxwell's equation, EM boundary value problem, Green's function, eigenfunctions expansion techniques, Conservation of EM energy, EM radiation from simple sources, general EM field, Hertzian potentials, Dyadic Green functions.

E1659 VLSI Technology (0/3) In this course we will study the principles and design of VLSI circuits. The content of this course is composed of four parts: the principles of CMOS circuits, the structures of VLSI circuits, the architecture of VLSI Systems, and VLSI design methodology. In additional to the circuits and systems, we will also cover some CAD tools for the design of VLSI circuits, such as Verilog for simulation and Cadence OPUS Design System for schematic entry, symbolic layout, polygon layout, module generation, design rule checking, and system integration.

E1738 Broadband ISDN (3/0) This course covers the topics: introduction of ATM, transfer modes, ATM standards, broadband ATM switching, impact of ATM on terminals and services, ATM LAN layer, traffic control in ATM networks, strategies for ATM.

E1739 Fault-Tolerant System Design (3/0) This course covers the design and analysis of fault-tolerant systems, including the survey of fault-tolerant computer architectures and some case studies. Experimental analyses of computer system dependability, reliability estimation, system diagnosis and fault-tolerant software are also covered.

E1740 Adaptive Control (3/0) This course introduces graduate students to the state-of-the-art design
methods of adaptive control, and their limitations. Topics include: parametric models, parameter identifiers and algorithms: SPR-Lyapunov, gradient, least-squares; Persistence of excitation; Adaptive observers, Certainty equivalence principle, Model reference adaptive control, Indirect adaptive control: pole placement, polynomial approach, LQR; Robustification: parameter drift, leakage, projection, dead-zone, dynamic normalization; Adaptive nonlinear control: tuning functions and modular design, Extremum seeking.

E1741 Image Analysis (0/3) Image analyses deals with the processing and analysis of images. We first introduce basic image processing techniques and then techniques suitable for image analysis will be fully discussed.

E1743 High Speed Optic Networks (0/3) This course covers the following topics: light sources, optical fibers, light detection noise in optical communications, incoherent detection, TDMA, WDMA, SCM, photonic switching, direct modulation, DFB laser, external modulation, coherent detection, optical amplifier, optical fiber soliton transmission.

E1744 Digital Circuits Testing and Diagnosis (3/0) This course covers the basic concept of the testing of digital circuits and systems. Fault modeling and logic simulation are introduced first. Fault modeling is the fundamental subject of this course; therefore, we concentrate on this topic. Testing for single stuck faults is another important topic of this course. The ATG, such as D-algorithm, 9-V, PODEM, and FAN, is described. The students who take this course will learn how to generate the test patterns of a digital circuit.

E1849 Adaptive Signal Processing (0/3) This course introduces some practical aspects of signal processing and in particular adaptive systems. Current applications for adaptive systems are in the fields of communications, radar, sonar, seismology, navigation systems and biomedical engineering. This course will present the basic principles of adaptation and cover various adaptive signal processing algorithms (e.g., the LMS algorithm) and many applications, such as adaptive noise cancellation, interference canceling, system identification, etc.

E1850 Analog Circuit Design (0/3) This course provides tutorial information on custom CMOS (complimentary metal oxide semiconductor) analog circuit design. Emphasis is placed on the practical implementation of analog CMOS integrated circuits (Ics). An electrical or computer engineering background with fundamental knowledge in the area of MOSFET operation, linear circuits, and engineering electronics is required.

E1851 Paper Writing Technique (3/0) Once the target skill areas and means of implementation are defined, the teacher will proceed to focus on what topics can be employed to ensure student participation. By pragmatically combing these objectives, the teacher can expect both enthusiasm and effective learning.

E2062 Digital TV Technology (3/0) Digital Television (DTV) has different meanings depending on whether you're discussing production and post-production or distribution and transmission. For production and post-production, it means using digital production tools such as cameras, VTRs, switchers, disk recorders, CGs, etc. In distribution and transmission, it means sending the audio and video digitally to its destination.

E2073 Microweletronics (3/0) Topics include: (1) VLSI Technology, (2) Operational/Wideband Amplifiers, (3) Active Filters, (4) Sample-and-hold Circuits, (5) DAC/ADC Converters, (6) Distortion in Amplifiers and Its Reduction, (7) Mixers/Multipliers/VGA/Phase Detectors, and (8) Signal Generators.

E2077 The Third Generation Wireless Communication System (3/0) The wireless communication landscape is changing dramatically, driven by the rapid growth in the Internet information services and by the appearance of new multimedia applications. The emerging 3rd-generation cellular networks will soon support data rates from 64 kb/s (vehicle speeds) to 384kb/s (walking), and eventually up to 2 Mb/s (stationary, hot-spot cells), which allow a variety of high-speed mobile data and multimedia services.
E2088 Wavelet Theory (3/0) This course describes the fundamentals of wavelet, and the application. The application includes image data compressing signal processing, and communication application.

E2227 Soft Computing (0/3) Soft computing differs from conventional (hard) computing in the aspect that, unlike hard computing, it is tolerant of imprecision, uncertainty and partial truth. In effect, the role model for soft computing is the human mind. The guiding principle of soft computing is exploitation of the tolerance for imprecision, uncertainty and partial truth to achieve tractability, robustness and low solution cost.

E2325 Fractal Image (3/0) The most popular "fractal-based" algorithms for both the representation as well as the compression of computer images have involved some implementation of the method of Iterated Function Systems (IFS) on complete metric spaces, e.g. IFS with probabilities (IFSP), Iterated Fuzzy Set Systems (IFZS), Fractal Transforms (FT), the Bath Fractal Transform (BFT) and IFS with grey-level maps (IFSM). (FT and BFT are special cases of IFSM.) The "IFS component" of these methods is a set of N contraction maps \( \{w_1, w_2, ..., w_N\} \), \( w_i : X \to X \), over a complete metric space \( (X, d) \), the "base space" which represents the computer screen.

E2331 Wireless Communication Systems (3/0) The objective of the course is to enable participants to obtain a thorough understanding of simulation-based design and analysis of wireless communication systems, sufficient to prepare them for developing or improving their own simulations, or to be able to evaluate the capabilities of commercially available packages.

E2337 Special Topics in Digital Signal Processing (3/0) DSP has been a research topic in the Department of Electronic and Electrical Engineering since 1973. The principal research areas are DSP for data communications, speech and image processing, and biomedical signal processing. The approach adopted by the group is to strike a balance between directed fundamental research and applied research.

E2382 Digital Intellectual Property (3/0) DIP is playing a more and more important role in the SOC era. The objective of this course is to introduce how to design a successful IP core so as to be easily integrated into an SOC design, specially, including the test strategies for such protected IP cores.

E2442 Special Topics on Image Processing (3/0) The principal goal of this course is to provide an advanced introduction to the applications of special topics on image processing methods. The 3-D modelling and face detecting will be introduced.

E2454 Advanced Digital Signal Processing (3/0) The principal goal of this course is to provide a unified introduction to the theory, implementation, and applications of statistical and adaptive signal processing methods. It will be focused on the key topics of spectral estimation, signal modeling, adaptive filtering, and array processing. The principal objectives are to introduce basic concepts and methodologies that can provide the foundation for further study, research, and application to new problems.

T8000 Thesis (0)
DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION ENGINEERING

Degrees Offered: B.S., M.S., Ph.D.

Chair: Kuo, Chin-Hwa (郭經華)

The Department

Established in 1969, the Department of Computer Science and Information Engineering is one of the earliest programs of computer science and engineering in Taiwan. The department was reorganized on the basis of the original Management Information System Program under the Graduate Institute of Management Science.

Currently, the department has 25 full-time faculty members, in conjunction with 42 part-time instructors. The undergraduate program covers all aspects of computer science, information engineering, software applications, and computer theory. With the newly developed technologies in computer networks, multimedia computing, and telecommunication, the department offers various elective courses in those related areas. In 2009, there were about 903 students in the Department, including 162 Master’s students and 57 Ph.D. students.

The Department offers academic degrees of BS, MS, and PhD in Computer Science and Information Engineering, and MS degree in Networking and Communication. The Department faculty and students are involved in a wide range of research areas. Several research labs have been established with continued support by the University as well as the government agencies (e.g., National Science Council of the Republic of China) with large research grants.

Research Areas

- Computer Networks
- Distance Learning Technologies and Standards
- Multimedia Computing
- Software Engineering
- Parallel and Distributed Computing
- Database Systems, Data Mining and Applications
- Artificial Intelligence and Fuzzy Theory
- Computer Graphics and Virtual Reality
- Image Processing, Pattern Recognition and Machine Vision
- Embedded Systems
- Wireless Communication, Mobile Computing, and Sensor Networks
- Information Security and Cryptography
- Bioinformatics
- Web Technology, Electronic Commerce, and others

Globalization is one of the distinguished features of our department. Starting in 2000, some of the graduate courses have been taught in English. A series of lectures in our graduate program will be delivered in English in the future. One of the perspectives of our department is to admit international graduate students, under the permission of the Ministry of Education and Tamkang University.

In the past few years, the department faculty have carried out several joint research projects with collaborators from Hong Kong, Japan, China, Russia, Canada, and some other countries. International research activity is another active perspective. Our faculty members constantly travel overseas to share and exchange professional expertise and experiences with researchers from other countries. We will continuously make efforts to build up the department's reputation in the international community.

Faculty

Professor Emeritus
Chao, Louis R.Y. (趙榮耀)

Professors
Chang, Chih-Yung (張志勇); Chiang, Ding-An (蔣定安); Keh, Huan-Chao (葛煥昭);
Kuo, Chin-Hwa (郭經華); Shih, Kuei-Ping (石貴平); Wang, Ying-Hong (王英宏)

Associate Professors
Chen, Chien-Chang (陳建彰); Chen, Po-Zung (陳伯榮); Chung, Hsing-Tai (黃興泰);
Horng, Wen-Bing (洪文斌); Hsu, Hui-Huang (許輝煌); Hwang, Lain-Jinn (黃連進);
Hwang, Ren-Junn (黃仁俊); Hwang, Shin-Jia (黃心嘉); Lin, Hwei-Jen (林慧珍);
Lin, Pei-Ching (林丕靜); Shyu, Yuh-Huei (徐郁輝); Wang, Bal (汪柏);
Yen, Shwu-Huey (顏淑惠)

Assistant Professors
Chen, Chun-Hao (陳俊豪); Chen, Jui-Fa (陳瑞發); Cheng, Chien-Fu (程建富);
Lin, Chi-Yi (林其誼); Lin, Shun-Chieh (林順傑); Tsai, Yi-Chia (蔡憶佳)

Degree Requirements

The Department of Computer Science and Information Engineering offers the programs at the undergraduate and graduate levels.

1. Requirements for a degree of Bachelor of Science in Computer Science & Information Engineering:
   Completion of 139 credits of courses, including 103 credits of required courses (including 31 credits of General Education), 24 credits of elective professional courses, and 12 credits of free elective courses.

2. Requirements for a degree of Master in Computer Science and Information Engineering:
   Completion of 34 credits of courses, including 8 credits of required courses and 4 credits of thesis courses. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

   Required courses:

3. Requirements for a degree of Master in Networking and Communication:
   Completion of 30 credits of courses, including 5 credits of required courses and 4 credits of thesis courses. Students are required to publish at least one research paper in professional Journals or conferences, submit a written master's thesis completed under the supervision of a faculty member, and pass an oral examination.

4. Requirements for a Ph.D. degree in Computer Science and Information Engineering:
   Completion of 24 credits of courses, including 6 credits of required courses and 6 credits of thesis courses. Students are required to pass a qualifying examination within the first three years, publish at least one research paper in any journal listed in Science Citation Index or Engineering Index, submit a written doctoral dissertation completed under the supervision of a faculty member, and pass an oral examination.

Course Descriptions

Undergraduate Courses

Required Courses

E0034 Engineering Mathematics (3/0) This course introduces methods of solution of common types of ODE, and then some numerical methods used to approximate equation solutions, functions, integrals, derivatives, and solutions to systems of differential equations.
E0175 Operating Systems (2/2) This course introduces fundamental concepts of operating systems, including computer-system structures, operating-system structures, processes, threads, CPU scheduling, process synchronization, deadlocks, memory management, virtual memory, file systems, I/O systems, and mass-storage structures.

E0194 System Programming (0/3) Topics include: Fundamental concepts of system software design and implementation, including assemblers, linkers, loaders, and macro processors.

E0334 Computer Organization (0/3) The goal of this course is to introduce the basic architecture and organization of the computer. It includes an overview, data representation and operation, device, processing unit, instruction sets, memory, and I/O systems of the computers.

E0342 Computer Programming (3/0) Covering the entire C or C++, this course is organized into five parts: the C subset-foundations of C/C++, C++ object-oriented features, the C/C++ function library, the C++ class library, and applications.

E0447 Advanced Programming Language (0/3) This course covers the entire Java, including its object-oriented features such as inheritance, function overloading, operator overloading, exception handling, class library, virtual machine, and applications.

E0644 Database (2/2) This course deals with the effective management and utilization of data. Topics include: Objectives of database management system (DBMS); Three-level architecture, data independence; File organization and access methods; Relational systems, SQL language, data definition and manipulation, views; Relational model theory, relational algebra and calculus; Database environments, transactions, concurrency, security and data integrity.

E0651 Data Structure and Processing (3/0) This course introduces fundamental concepts of data structure, including basic concept, arrays, stack, queue, list, tree, graph, sorting technology, hash function and search technology.

E0747 Language Structures (2/2) This course introduces various programming language concepts, including syntax, semantics, scope, storage management, parameter passing methods, type checking and inference, data abstraction, polymorphism, exception handling, and so on. The four programming languages--paradigms- imperative, object-oriented, functional, and logic--are also introduced.

E0761 Digital Systems (3/0) and Lab (1/0) Fundamental concepts of digital system design, including registers, counters, memory, programmable logic array, programmable logic array device, combinational logic circuits analysis, combinational logic circuits design, VHDL language, sequential circuits analysis and sequential circuits design, are covered.

E0768 Numerical Methods (3/0) First, errors in computing will be introduced. Then problems involving solutions of single nonlinear equations and system of linear equations will be discussed. Interpolation is also an important topic, as well as numerical integration, numerical differentiations and solving the differential equations. We will be sure to talk about a key issue in data analysis: least square approximation.

E0790 Compilers (0/3) This course introduces fundamental concepts of compiler design, including scanning, LL parsing, LR parsing, semantic processing, symbol tables, run-time storage organization, code generation, and code optimization.

E0933 Assembly Language (3/0) This is an introduction to Intel X80 architecture and its instruction set, assemblers and debuggers and assembly programming basics.

E1034 Introduction to Computers (2/2) This course provides an overview of computer science, including hardware, such as basic digital logic design and computer organization, and software, such as programming, algorithms, and data structures.

E1039 Introduction of Computer Network (3/0) This is an introductory course to modern day communication technologies. This course provides a broad and thorough exploration of a variety of network technology and protocol suites, including wired and wireless networks. Topics to be covered...
include the design and implementation of computer communication networks, their protocols, and applications.

**E1111 Algorithms (0/3)** This course addresses the design and analysis of computer algorithms. Although theoretical analysis is emphasized, implementation and evaluation techniques are also covered. Topics include: big-O notation, sorting, useful data structures, graph algorithms and matrix calculations.

**E2738 Digital System Design and Programming (0/3)** This course provides the basic knowledge necessary to understand how to simulate digital systems using hardware description languages. Digital systems here include digital logic circuits, such as adders, multiplexers, flip-flops, latches, counters and sequential-state machines. This course covers Very High-Speed Integrated Circuit Hardware Description Language (VHDL) and Verilog Hardware Description Language (Verilog HDL).

**E2739 Experiment of Digital System Design and Programming (0/1)** Computer-Aided Design is playing an increasingly important role in digital system design and, as such, should be a part of an engineer's skill. This course introduces the process of designing digital systems. It discusses the key steps in the design process and explains how CAD tools, such as Quartus II, can be used to automate the tasks. In a laboratory setting, students are required to implement the textbook's design examples in actual complex programmable logic devices (CPLD) and field-programmable gate arrays (FPGA) chip.

**S0439 Linear Algebra (0/3)** This course covers Gaussian elimination, determinants, Euclidean and general vector spaces, basis, dimension, inner product spaces, linear transformations, changes of basis, eigenvalues and eigenvectors, special matrices, singular value decomposition, orthogonality, and least squares solutions.

**T0141 Special Topics Lab. (1/1)** This course is designed for students to integrate theories and applications. Students choose topics they are interested in and discuss and/or do presentations regularly with professors. From this training, they learn how to do research, solve problems, and realize theorems into reality.

**Elective Courses**

**E0524 Introduction to Software Engineering (3/0)** This course introduces techniques to specify, design, test, and document medium and large software systems. Design Techniques include: structured programming, defensive programming, program design language (PDL), and program complexity models; Path testing, test methods and the construction of test data; Software reliability models; Introduction to software tools and management techniques. Student team projects are required as term projects.

**E1050 Automata Theory (3/0)** This course introduces abstract models of digital computers, programming languages, and related matters. Students will learn the foundations and basic principles of computer science.

**E2110 Introduction to Wireless Networks (3/0)** This course introduces the technology and underlying principles of wireless networks, such as AMPS (Advanced Mobile Phone System), GSM (Global System for Mobile communications), wireless LAN, wireless PAN (Personal Area Network), and MANET (Mobile ad hoc Network).

**M0517 Statistics (0/3)** Limit theorems, law of large numbers, and some probability distributions will be reviewed. Estimation of the parameters, including point estimation and interval estimation, will be discussed. Hypotheses are tested for means and variances. Regression and analysis of variances are very popular methods in statistical analyses.

**M0821 Introduction to Multimedia (3/0)** This course introduces the basic concepts of multimedia. The multimedia processing technologies are specially emphasized, covering speech, image, and video compression schemes. Students are able to appreciate the power of digital multimedia. Meanwhile, this course is designed to build the fundamental concepts so that students are able to design multimedia systems.
S0450 **Introduction to Probability Theory (0/3)** Topics include: Combinatorial analysis, probability space, axioms of probability, conditional probability and independence, discrete random variables, continuous random variables, jointly distributed random variables, properties of expectation and limit theorem.

S0487 **Discrete Mathematics (2/2)** This course is centered on the mathematics most directly applicable to computing. From this course, students can develop maturity in mathematics, so the skills of problem solving can be improved.

**Master's Program for Computer Science and Information Engineering**

**Required Courses**

E0349 **Computer Algorithms (0/3)** This course addresses the design and analysis of computer algorithms. Although theoretical analysis is emphasized, implementation and evaluation techniques are also covered. Topics include: big-O notation, sorting, useful data structures, graph algorithms, matrix calculations, dynamics programming, and greedy algorithms.

E1354 **Formal Language and Automata Theory (3/0)** This course is to introduce students to the abstract models of digital computers, programming languages, and related matters. Students learn the foundations and basic principles of computer science.

T0081 **Research Methodology (1/1)** Basic skills of writing research papers/thesis and selecting research topics will be delivered in class. Students will have a short presentation to show their direction of thesis writing. The instructor will invite domestic/international scholars to present their work upon demand.

T8000 **Thesis (4)** By selecting a good topic for graduate students’ research and transforming an idea to reality, we try to organize the paper and the thesis.

**Elective Courses**

E0175 **Operating System (3/0)** In this course, we will study the theories, techniques, and instance of the operating system. They include process management, memory management, file and I/O management, disk management, network management, security management.

E0644 **Database (3/0)** Topics include: Object-oriented data modeling, object SQL, physical object management; Logical-based data modeling, logic foundation of database. A database management system design and implementation project is required.

E0790 **Compilers (3/0)** This course introduces UNIX’s utility tools: Lex and Yacc, top-down and bottom-up parsing techniques in addition to attributed grammars. Also covered in the course are: Intermediate code, front end and back end code optimizations; Dataflow analysis, code generators, concepts of compiler, parallel compiling technique.

**Elective Courses**

There are many elective courses, including multiple professional courses of IT area, such as Pattern Recognition, Cryptology, Broadband Wireless Networks, Ubiquitous Computing Security, Machine Learning, Image Processing, Object-Oriented Software Engineering, Component-based Software Development Technology, Complex Networks, Data Mining, Distributed System, and so on.

**Master's Program for Networking and Communication**

**Required Courses**

E2796 **Multimedia Information Network (3/0)** Multimedia has become an indispensable part of modern computer technology. In this course, students will be introduced to principles and current technologies of multimedia system design and gain hands-on experience in this area. Lecture topics include fundamental concepts of digital image and video, as well as practical solutions to multimedia applications. Special research topics on image and video processes will be discussed.
E2832 Wireless Communication (3/0) This course introduces the fundamentals and design principles of wireless communication. Existing wireless communication standards including Bluetooth radio networks, Wireless LANs, Wireless Sensor Networks, WiMAX and Telecommunication systems are addressed.

T0081 Research Methodology (1/1) Basic skills of writing research papers/thesis and selecting research topics will be delivered in class. Students will have a short presentation to show their direction of thesis writing. The instructor will invite domestic/international scholars to present their work upon demand.

T8000 Thesis (4) By selecting a good topic for graduate student's research and transforming an idea to reality, we try to organize and complete the thesis.

Elective Courses

Ph.D. Program

Required Courses

D0035 University Education and Instruction (0/2) This course is made up of five parts. First, to explore the development and change of idea and spirit of a university; second, to understand recent development trend and reform direction of higher education in advanced countries; third, to probe some problems, strategies and perspectives of higher education in Taiwan; fourth, to inquire the impact of knowledge-base economy upon higher education and its challenges; and finally, to enhance total quality of higher education and competitiveness.

T0102 M0878 Seminar (I) & (II) (2/2) The instructor supervises students as a study group in reading state-of-the-art research issues. Students will present their studies in English and deliver a draft paper for conference/journal submission. Students are free to choose their own research topic. However, an individual should discuss with his/her supervisor to decide a reasonable title for presentation and paper.

T8000 Thesis (6) By selecting a good topic for graduate student's research and transforming an idea to reality, we try to organize the paper and the thesis.

Elective Courses
There are many elective courses, including multiple advanced and professional courses of IT area, such as Digital Communication, Bioinformatics, Soft Computing, Text Mining, The Design of Multimedia Systems, Intelligent Web Information System, Semantic Web Technology, The Mobility Management, Parallel Computing, Multimedia Digital Watermarking, and so on.
DEPARTMENT OF AEROSPACE ENGINEERING

Degrees Offered: B.S., M.S.

Chair: Lee, Shi-min (李世鳴)

The Department

The Department of Aerospace Engineering was founded in 1972, the first of its kind among Taiwan's universities (http://www.aero.tku.edu.tw). The Department trains students at the bachelor and master's level, with primary emphasis on flight vehicles. There are at present 22 faculty and staffs, 500 undergraduate students and 50 graduate students in the Department. Today, there are more than 2,000 alumni, who are now working in a variety of fields.

The first year study focuses on course work on mathematics, physics, humanities, and social science. The second, third and fourth years emphasize aerospace disciplines and related engineering sciences. Also, the juniors need to obtain working experiences in related aerospace companies during the summer session. A minimum of 143 credit hours is required for the bachelor's degree.

There are several areas of specialty available: Theoretical Aerodynamics, Computational Fluid Dynamics, Helicopter Aerodynamics, Combustion Stability, Composites, Optimal Theory, Aeroelasticity, Flight Simulation, Air Traffic Control, Aviation Safety, Trajectory Optimization and Optimal Control of Space Vehicles, and so on. A minimum of 29 credit hours and a thesis are required for the master's degree. The Department of Aerospace Engineering and its graduate program have been accredited by IEET (a full signatory of the Washington Accord).

Faculty

Professors
Chen, Ching-hsiang (陳慶祥); Chen, Tzeng-yuan (陳增源); Feng, Chao-kang (馮朝剛);
Ing, Yi-shyong (應宜雄)

Associate Professors
Chang, Yeong-kang (張永康); Chen, Pu-woei (陳步偉); Lee, Shi-min (李世鳴);
Ma, Der-ming (馬德明); Tang, Jing-min (湯敬民); Tyan, Feng (田豐); Wan, Tung (宛同);
Wang, Yi-ren (王怡仁)

Assistant Professors
Hsiao, Fu-yuen (蕭富元); Shiau, Jaw-kuen (蕭照焜)

Degree Requirements

1. Requirements for a degree of B.S. in Aerospace Engineering:
   Completion of 143 credits of courses, including 111 credits of required courses and 20 credits of elective aerospace engineering courses.

2. Requirements for a Master's degree in Aerospace Engineering:
   Completion of 29 credits of courses, including 3 credits of required courses and 2 credits of seminar. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

   Required courses:
   Advanced Engineering Mathematics, Seminar I, Seminar II.

Course Descriptions

Undergraduate Courses

E0031 Engineering Graphics (0/1) The goal of this course is to study the language of engineering
graphics so that students can write it clearly for those familiar with it and read it readily when written by another. Therefore, students must know the basic theory and be familiar with its accepted conventions and abbreviations.

**E0034 Engineering Mathematics I (3/0)** This course aims to develop techniques for solving linear, nonlinear first and second order ordinary differential equations along with engineering applications, which include undermined coefficient method, variation of parameters, power series solutions, Laplace transform method and phase plane analysis, etc.

**E0034 Engineering Mathematics II (0/3)** This course covers advanced topics in Linear Algebra, including matrix, eigenvalue problems and vector operations, Laplace transforms, Fourier series, Fourier integrals and transforms for various engineering applications.

**E0156 Finite Element Method (2/0)** This course presents a clear, easy-to-understand explanation of finite element fundamentals and enables students to use the method in research and in solving practical, real-life problems. It develops the basic finite element method of mathematical formulation, beginning with physical considerations, proceeding to the well-established variation approach, and placing a strong emphasis on the versatile method of weighted residuals, which has shown itself to be important in nonstructural applications. This course also demonstrates the tremendous power of the finite element method to solve problems that classical methods cannot handle, including elasticity problems, general field problems, heat transfer problems, and fluid mechanics problems. They supply practical information on boundary conditions and mesh generation, offer a fresh perspective on finite element analysis with an overview of the current state of finite element optimal design, and give students the real insight needed to apply the method to challenging problems.

**E0165 Automatic Control System (3/0)** This course introduces analysis and design of continuous-time control systems using frequency- and time-domain methods. Also covered are the classical methods of control engineering, which are: Laplace transforms and transfer functions, root locus design, Routh-Hurwitz stability analysis, frequency response methods, including Bode, Nyquist, and Nichols; steady-state error for standard test signals; second-order system approximations, and phase and gain margin and bandwidth.

**E0180 Mechanics of Materials (0/3)** This course introduces students to the fundamental principles and methods of solid mechanics. Topics include: analysis of static equilibrium, support conditions, analysis of static-determinate planar structures (bars, beams, trusses), stresses and strains in structures, states of stress (shear, bending, torsion), statically indeterminate systems, and displacements and deformations.

**E0222 Aerodynamics I (3/0)** The dynamics of gases especially of atmospheric interactions with moving objects is studied. Contents include: potential flow theory, superposition of simple flows, Biot-Savart law, Kutta-Joukowski theorem and generation of lift, Kutta condition, Vortex sheet and thin-airfoil theory, aerodynamic characteristics of NACA airfoil.

**E0222 Aerodynamics II (0/2)** The dynamics of gases especially of atmospheric interactions with moving objects is studied. Contents include: finite wing theory, downwash and induced drag, linearized compressible flow with small perturbation assumption, airfoil in subsonic flow. Prandtl-Glauert transformation, supersonic flow, critical Mach number, and brief introduction of Hypersonic flow are also covered.

**E0296 Fluid Mechanics Lab (0/1)** Fluid Mechanics has been widely applied in all aspects of engineering field. The essential objective of the course of the Fluid Mechanics is to help students to understand fundamental fluid mechanical related phenomena and natural laws, so that they can apply the knowledge to various scientific fields. Since most phenomena of flow are very complicated, they have to be verified experimentally. The objective of this course is to equip students with the various experimental techniques so that they can incorporate the results obtained in the laboratory with the knowledge learned from the book.

**E0300 Fluid Mechanics (3/0)** This course offers an introduction to the basic phenomena and principles of fluid flow. We discuss fluid properties, fluid statics, conservation of mass, momentum and energy. Emphasis is on quantitative analysis of velocities, pressures, shear stresses, and flow forces.
The application of basic fluid mechanics concepts to the analysis of pipe flow, and flow over or around objects are stressed in homework assignments and exams. Flow phenomena are illustrated in CD-ROM tutorials and laboratory demonstrations. Measurement of fluid properties, pressures, velocities, and flow forces are performed in laboratory sessions.

E0371 Engineering Vibrations (2/0) This course focuses on the study of oscillatory motions of bodies and the forces associated with them. It reviews several fundamental principles of mechanics, and then covers the following topics: system modeling, modal analyses of forced vibration problems, finding dynamic responses of discrete and continuous systems, and measurements of characteristic parameters of vibration systems. It is very important for both theoretical investigations and engineering applications.

E0373 Workshop Practice (0/0) Students taking this course need to take the on site practical training at various organizations. It is to help students gain experiences of practical application of the knowledge learned in the course.

E0381 Introduction to Gas Dynamics (0/2) Compressible flow is the main subject of gas dynamics. In this course, the students will learn to appreciate why modern airplanes are shaped the way they are and to marvel at the wonderfully complex and interesting flow processes through a jet engine. The students will learn about supersonic shock waves, and why in most cases we would like to do without them if we could. They will also learn about the fundamental physical and mathematical aspects of compressible flow, which the students can apply to any flow situation where the flow speeds exceed that by about 0.3 the speed of sound. In the modern world of aerospace and mechanical engineering, an understanding of the principles of compressible flow is essential. This course helps students learn, understand, and appreciate these fundamental principles, while at the same time giving the students some insight into how compressible flow is practiced in the modern engineering world. This course begins with a basic introduction of classical compressible flow. The treatment of shock waves and expansion waves are discussed. The flow properties across the shock waves and expansion waves are evaluated. The second part of this course covers the flow characteristics of supersonic nozzles. The shock wave and expansion wave in supersonic nozzle are discussed.

E0402 Introduction to Aero Engineering (1/0) The invention of heavier-than-air flying machine is one of the remarkable achievements in the 20th century. The main objective of this course is to offer an introduction to aeronautical engineering from the technological and historical points of view. This course will include the following topics: the history of flight, the development of Taiwan aerospace industry, the principles of flight, aircraft structures and its material, the power plant, navigation system, and airworthiness.

E0404 Aircraft Materials (0/2) Since aluminum was first used in the beginning of the 20th century as a structural material for the aviation industry, all kinds of new material were further developed and tailored to fit the needs of airplane and engine builders around the world. This main objective of this course is to introduce the material's characteristic used in aviation industries, which includes basic phase diagram, thermal processes, alloys/super alloys and recently developed composite material.

E0406 Aircraft Engines (3/0) Aircraft engines is a summarized course. It is a complicated course and covers broad disciplines, so that it is offered in the senior year. This course covers fluid mechanics, thermodynamics, aerodynamics, gas dynamics, strength of material, materials, etc. This course introduces the design and working principles of ramjet, turbojet, turbofan, turboshaft and turboprop. It also teaches the design and analysis of the major components of aircraft engines such as inlet, compressor, combustor, turbine, nozzle and afterburner. The basic physical concepts are also reviewed in the course.

E0431 Advanced Strength of Materials (2/0) Advanced Strength of Materials is an extended course of the Mechanical of Materials. Specialized topics include: Pressure vessels analysis, Thermal effects, dynamics loading, Statically indeterminate beams, Deflection analysis, and Column buckling analysis.

E0466 Dynamics (3/0) Dynamics is a subject rich in its varied applications; therefore, it is important that students develop a feel for realistically modeling an engineering problem. Consequently, this course is to provide students a working knowledge of the motions of bodies and the forces that accompany or cause those motions. The topics include the plane and 3-D kinematics of particles, plane
and 3-D kinetics of particles, and the kinematics and kinetics of rigid bodies in plane motion, which are the bases of further studies in Aerospace Engineering.

E0671 Engineering Application of Computers I (0/2) Numerical analysis is the study of computer algorithms developed to solve the problems of continuous mathematics. Students taking this course gain a foundation in approximation theory, functional analysis, and numerical linear algebra from which the practical algorithms of scientific computing are derived. A major goal of this course is to develop skills in analyzing numerical algorithms in terms of their accuracy, stability, and computational complexity. Topics include: best approximations; least squares problems (continuous, discrete, and weighted), eigenvalue problems, and iterative methods for systems of linear and nonlinear equations. Demonstrations and programming assignments are used to encourage the use of available software tools for the solution of modeling problems that arise in physical, biological, economic, or engineering applications.

E0671 Engineering Application of Computers II (0/2) Numerical Analysis is the study of algorithms for the problems of continuous mathematics (as distinguished from discrete mathematics). Numerical analysis naturally finds applications in all fields of engineering and the physical sciences, but in the 21st century, the life sciences and even the arts have adopted elements of scientific computations. Ordinary differential equations appear in the movement of heavenly bodies (planets, stars and galaxies); optimization occurs in portfolio management; numerical linear algebra is essential to quantitative psychology; stochastic differential equations and Markov chains are essential in simulating living cells for medicine and biology. Before the advent of modern computers, numerical methods often depended on hand interpolation in large printed tables. Nowadays (after the mid 20th century), these tables have fallen into disuse, because computers can calculate the required functions. The interpolation algorithms nevertheless may be used as part of the software for solving differential equations and the like.

E0693 Electrical Engineering (2/0) This course covers the principles and applications of basic electric components and systems for the aerospace engineering students. Major topics include principles of basic electric theory, electric circuit components, Kirchhoff's voltage law, Kirchhoff's current law, resistive network, Thevenin equivalent network, AC circuits, transient analysis, frequency response, filter, principles of electromechanics, and an introduction to electric machines.

E0828 Mechanical Drawing I (1/0) Engineering drawing is concerned with the expression of technical ideas or ideas of a practical nature, and it is the method used in all branches of technical industry. The main objective of this course is to introduce the basic drafting skills, arrangement of views, shape description, dimensioning, principal of datum, sectional view, auxiliary view.

E0828 Mechanical Drawing II (0/1) Engineering drawing is concerned with the expression of technical ideas or ideas of a practical nature, and it is the method used in all branches of technical industry. Besides the traditional handmade drawing that is taught in the first semester, the main objective of this course is to teach students the basic skill of computer aided drawing. CAD has been widely used in the technology industry for designing and manufacturing. This course will include the following topics: the fundamental of CAD, sectional view, and 3D-modelling.

E0830 Manufacturing Processes (0/2) Manufacturing is the process of converting raw materials into products. Manufacturing also involves activities in which the manufactured product itself is used to make other products. Examples could include large presses to shape sheet metal for appliances and car bodies, machining to make fasteners, such as bolts and nuts, and sewing machines to make clothing. The manufacturing is a complex activities involving a wide variety of sources and activities, such as the following: design, machinery, process planning, materials, manufacturing, quality control, etc.

E0865 Statics (0/3) Statics is the specific field of study dealing with forces in equilibrium and/or bodies held in equilibrium by the forces acting on them. Statics is a part of the broad field of mechanics which is the study of the action of forces on material bodies. In the course, the rigid body (bodies) in equilibrium, the elements of statics in two and three dimensions, centroids, analysis of structures and machines are considered.

E0961 Electronics (0/2) This course introduces the principles and applications of basic electronic components and systems for aerospace engineering students. Major topics include principles and applications of operational amplifier, active filters, semiconductors and diodes, bipolar junction
transistors, field effect transistors, power electronics, digital logic circuits, digital systems, electronic instrumentation and measurements.

E0962 CAD/CAM (0/3) In the life cycle of engineering products, computer assisted design and manufacture play a major role to success. They not only shorten complex engineering work but also improve the product’s performance and quality assurance. The purpose of this course is to establish the comprehensive overview of the application of computers to the design work. This course will also train students to use Pro-Engineer software to design various 3D models.

E1034 Introduction to Computers I (2/0) An introduction to the modern computer science and its application will be given in this course, which offers a rough idea and basic knowledge of how computers and networks function. This course will cover 12 topics, including Data storage, Number representation, Internet and TCP/IP, Internet and WWW, Wired and wireless communication, and so on. A final team project about application of technology of computer to aerospace engineering should be submitted as one of the class evaluations. There will also be an oral presentation as part of the final project.

E1034 Introduction to Computers II (0/2) This course teaches the way to programs. The instructor will spend most time teaching Fortran and the last 3 weeks on important commands in Matlab. Fortran was developed for scientific and engineering computation and is widely used in the world. Its meticulous structure is also a good tool for beginners to establish their programming logic. Fortran 95 will be the basic content; however, that will also be compared with Fortran 77, which is the most popular version in the past. On the other hand, Matlab, on the basis of matrix operation, is widely used in automatic control field. There will be a Midterm Qualification Examination after a midterm paper test, so that students are guaranteed to acquire an ability of writing programs after taking this class.

E10526 Rocket Propulsion (0/3) The purpose of this course is to introduce the basic technology, performance and design rationale of rocket propulsion. The course contents provide an understanding of basic principles, descriptions of key physical mechanisms and designs, and an appreciation of the applications of rocket propulsion to flying vehicles.

E1106 Electronic and Circuit Laboratory (0/1) This course provides an introduction of electronic circuits measurements to aerospace engineering students. Topics include: basic measuring instruments, resistors, capacitors, inductors, transformers, diodes, transistors, operational amplifiers, and logic circuits.

E1107 Engineering Materials (2/0) The main objective of this course is to present the basic fundamentals of materials science and engineering. Material science involves investigating the relationship that exists between the structures and properties of materials. On the other hand, materials engineering is, on the basis of those structure-property correlations, designing or engineering the structure of a material. This course will present the basic atom structures, structure of crystalline solids, mechanic properties of metals.

E1108 Workshop Practice (1/0) The course will provide students, as prospective excellent engineers, with practical Aerospace Engineering artisan skills through their participation in practical machining work. This course will also train students about safety aspects and disciplines in workshops. After successful completion of this course, students will be able to exercise practical judgments and forward the contents of machining work as well as the quality of the craftsmanship.

E1178 Aircraft Structures (3/3) Aircraft structure analysis plays an important role in aircraft design. Therefore the course of aircraft structure will provide students with fundamental concepts in the analysis and design of aircraft structures, and develop unified analytical tools for the prediction and assessment of structural behavior. In addition, the course will help students to study the structural analysis method and develop a thorough understanding of the important factors which must be considered in the design of aircraft structural components.

E1179 Aircraft Design (3/0) This course introduces a preliminary layout of a military or civil transport aircraft using design and calculation techniques developed in aerospace engineering courses. Materials covered include design goals, aerodynamics review, performance analysis, wing/fuselage layout, weight and wing loading estimations, engine and material selections, stability analysis, etc.
E1516 Special Topics in Rotary-Wing Aircraft (0/2) Helicopters are highly capable and useful rotating-wing aircrafts that have a variety of civilian and military applications. Their usefulness lies in their unique ability to take off and land vertically, to hover and to fly forward, backward, or sideways. This course begins with a technical history of helicopter flights, then covers basic methods of rotor aerodynamic analysis (Momentum Theory and Blade Element Theory) and related issues associated with helicopter performance, and ends with rotor blade design.

E1521 Aircraft Systems (3/0) Aircraft System is the specific field of the introduction to the basic function & operation of the aircraft systems, including basic aircraft structure, hydraulics, pneumatics, landing-gear, electrical system, air conditioning, flight control system, flight management system, fuel system, aircraft instrument & avionic system, and engines.

E1540 Aircraft Performance Analysis (0/2) This course familiarizes students with the fundamentals of airplane design. The airplane will be treated as a point mass and the equations of motion are derived. The only parameters which determine the performance of an airplane are wing loading ($W/S$), lift-to-drag ratio ($L/D$), thrust-to-weight ratio ($T/W$) and the (thrust) specific fuel consumption of the powerplant. The performances to discuss are descent and glide, cruise which includes range and endurance, climb, turn, take-off, and landing.

E1555 Air Traffic Control (0/2) This course provides an analysis of Air Traffic Control (ATC) functions, studies the history, development, and structure of the National Airspace System, and explores navigation aids, ATC radar systems, terminal and en route control, flight service and weather facilities, instrument flight rules, and airspace. It helps students understand the procedures used in radar and non-radar air traffic control and the future enhancements to the national airspace system are also included.

E1556 Avionics System (2/0) Topics include: Evolution of avionics, system design consideration, digital technology, flight decks and cockpits, navigation systems, communication systems, future trends and developments.

E1557 Modern Control System Design (0/3) This course is an advanced class in automatic control. Students will learn from this course how to stabilize an unstable system and choose a set of good parameters that gives better performance of a system. Starting from reviewing basic ideas in automatic control, this course will introduce several controller designing skills, such as output feedback with PID controller and frequency domain design. State-space analysis and design will also be introduced in class. Homework, midterm examinations, and a final team project will be used for evaluation. Several Matlab commands will also be included in the lectures.

E1582 Aviation Quality Assurance (0/2) Aviation safety has been the topic of greatest concern to the general public since the very first day the air vehicle flew on the sky. The best way to prevent or oversee any unwilling problems is to rely emphatically on “how to establish a quality management system” which complies with standard and government requirements. This course will provide students with the basic knowledge about basic quality systems, aviation quality assurance processes and related essential skills needed to manage an organizational safety system.

E1598 Aerospace Engineering Experiments (1/0) This course is designed to familiarize students with the operation and control of PXI system, LabView, and magnetic bearing system. The students are also required to operate the industrial standard FANUC robot in the computational dynamics and control lab.

E1598 Aerospace Engineering Experiments (0/1) This is an engineering laboratory course for aerospace engineering seniors. Students need to understand the engineering experimentation through design and execution of "project" experiments. Students construct and test equipment, make systematic experimental measurements of phenomena, analyze and discuss data, and complete the experimental report finally. Groups of five or six students work together on one project during the semester.

E2015 Signals and Systems (0/2) This course presents the mathematical study of signals and systems. Major topics include MATLAB tool, natural response of first and second order systems, rational function and partial fraction expansion, qualitative analysis of systems, transfer function and convolution, frequency response, Bode plot, Fourier transform, discrete time signals and systems.
E2026 Experimental Methods in Thermo-Fluids (0/2) This course introduces some of the experimental tools in thermo-fluid velocity measurements, including pitot-static tube, hot-wire anemometry, laser Doppler velocimetry and particle imaging velocimetry. The principles of these instruments are first introduced. The students are separated into several groups and operate these instruments. The velocity measurement results from the pitot-static tube are compared with those obtained from the laser Doppler velocimetry. The calibration of the hot-wire anemometry is made using the laser Doppler velocimetry. Then, the hot-wire anemometry is used for the velocity measurements in duct flows to understand the pipe flow characteristics and the boundary layer behavior.

E2053 Flight Mechanics (0/3) The goal of this course is to provide students with the fundamentals of airplane design. The static stability of the airplane will be presented first. The rigid body dynamics is then applied to the study of airplane's motion. With the perturbation method used, the equations are linearized. During the linearization, the aerodynamic stability derivatives are introduced. Since the derivatives are the functions of the aerodynamic and physical properties of the airplane and are important in understanding the motion of the airplane, their physical meanings are discussed. Based on the derived linearized equations of motion, the aero dynamic transfer functions, dynamic responses, handling and flight qualities, and autopilot design are presented.

E2139 Fundamentals of Astronautics (0/1) This course covers basic ideas of astronautics, including satellite subsystems, two-body problem, 3D trajectory, orbit change, relative motion, gravity assist, three-body problem, and booster performances, etc. As part of this course, a tour to the National Space Office, the space center responsible for the space activities of our country, will be arranged. In addition, there will be a midterm project of designing a satellite so that students will have an overall scope of what astronautics is dealing with.

E2535 Introduction to Nano and Nano Engineering (3/0) Micro and Nano technology is necessary and fundamental to modern engineers in every field including aerospace engineering nowadays. This course is to introduce this multidiscipline expertise from the theoretical background, the processing techniques, and the engineering applications accordingly. The correlation to aerospace engineering (micro air vehicles) will be also addressed.

E2593 Aerospace project Management (3/0) Project Management is both people and technology-oriented. With full understanding of project management concepts, the course will greatly enhance aeronautic engineering students’ competitiveness as project managers.

E2642 Heat Transfer in Electronic Devices (0/2) Quite a few students work in heat transfer related companies after graduation from our department. This course introduces the physical mechanisms and basic principles behind the three heat transport modes: conduction, convection, and radiation. We also teach in detail external and internal forced convections, natural convection as well as boiling and condensation. This course will teach students how electronic heat transfer devices operate and how to measure their performance. Finally, this course will teach students how to use the electronic heat transfer simulation software—CEPAK.

E2719 Introduction of System Engineering (0/2) System engineering is both a technical and management process. It is a discipline that ties together all aspects of a program to assure the individual parts assembles, sub-assembles, support equipment. It is also a logical sequence of activities and decisions transforming an operational need into a description of system performance parameters as well as a preferred system configuration. This course mainly introduces the basic system engineering and analysis techniques, which will cover Statement of Work, Work Breakdown Structure and Risk Management.

E2858 Management and Technology (0/2) Exerting the result of technology development efficiently needs good management understanding. This course mainly discusses the interrelationship and interaction between Technology and Management; learning the management concept by using the technical knowledge and through kinds of practical cases to realize how to use management in technology well.

S0290 General Physics (3/0) Basic concepts and knowledge of the classical physics every engineering student should know are introduced in this course. Topics like kinematics, mechanics, thermodynamics
and so on will be taught. The mathematics students need to know for this course are algebra and, only later, basic calculus, the operation of vectors will be introduced in the course.

**S0291 General Physics Lab. (1/0)** Emphases of these experiments are placed on data collection and data analysis including curve fitting and plotting with computers. Details about the experiment contents and procedures will be explained in the class.

**S0325 Calculus I (3/0)** This course is an introduction to the topics on differentiation, integration and infinite series. Basically, it is a discipline on the research of variation and application on the areas of science, engineering and economics. Calculus consists of differentiation and integration. The former is an operation of computing derivatives and the latter provides a general method to compute areas and volumes. They are converse operations each other.

**S0325 Calculus II (0/3)** The main topics of Calculus are functions, limits, differentiations, applications of differentiation, integration, applications of integration, integration skills, sequence and series, calculus of multivariable. Calculus is the foundation of modern science, which provides quantitative analysis of the basic theory and tools in multiple disciplines. Therefore, students can learn advanced mathematical theories and have the capacity of calculation in all relevant disciplines.

**S0434 Thermodynamics I (3/0)** Thermodynamics is an exciting and fascinating subject that deals with energy, which is essential for substance of life, and thermodynamics has long been an essential part of engineering curricula all over the world. It has a broad application area ranging from microscopic organisms to common household appliances, transportation vehicles, power generation systems, air conditioning systems. This course begins with an introduction of thermodynamics, including energy, energy transfer, general energy analysis, properties of substances, energy analysis of close systems and open systems, second law of thermodynamics and entropy. The second part of this course covers the applications of thermodynamics, including gas power cycles, vapor and combined power cycles and refrigeration cycles.

**S0434 Thermodynamics II (0/3)** Thermodynamics is an exciting and fascinating subject that deals with energy, which is essential for substance of life, and thermodynamics has long been an essential part of engineering curricula all over the world. It has a broad application area ranging from microscopic organisms to common household appliances, transportation vehicles, power generation systems, air conditioning systems. This course begins with an introduction of thermodynamics, including energy, energy transfer, general energy analysis, properties of substances, energy analysis of close systems and open systems, second law of thermodynamics and entropy. The second part of this course covers the applications of thermodynamics, including gas power cycles, vapor and combined power cycles and refrigeration cycles.

**S0439 Linear Algebra (0/2)** This course offers an introduction to linear algebra that is useful in various fields. Starting with matrix arithmetic, the lectures cover several topics, including determinants, LU factorization, introduction of vector space, linear transformations, bases and dimensions, inner and outer product, similarity and diagonalization, and so on. Computer programming will be applied to this course so that students know how to make use of the computer technology as well as linear algebra to solve engineering problems. Homework, midterm and final examinations will be used for evaluation.

**Master's Program**

**E0424 Advanced Engineering Mathematics (3/0)** Topics include: Mathematical models, computer graphics, boundary-value problems and characteristic function representation, Sturm-Liouville eigenvalue problems, Rayleigh quotient, solution of partial differential equations of engineering science, nonhomogeneous problems, methods of eigen-function expansion, the Dirac delta function and its relationship to Green's function, Green's functions for ordinary differential equations, Green's functions for partial differential equations; Calculus of variations, the Euler-Lagrange Equation, Hamilton Principle, Application to problems from Continuum mechanics, the Rayleigh Ritz method.

**E0439 Advanced Aerodynamics (0/3)** Topics include: Basic concepts, review of fluid dynamics, theory of wing sections, conformal transformation, Theodorsen transformation, 2-D incompressible flows, 3-D incompressible, incompressible slender body theory, biplane theory, compressible aerodynamics, supersonic aerodynamics, compressible slender body theory.
E0445 Advanced Dynamics (3/0) Topics include: Kinematics of motion, particle dynamics, Lagranges equations; Rigid body dynamics including Eulers equations, the Poinsot construction, spin stabilization, the rotation matrix; Vibrations of coupled systems, orthogonality relationships, generalized coordinates and generalized system parameters; Hamiltons equations, canonical transformations, and Hamilton-Jacobi theory. Also covered are their applications to orbital problems.

E0569 Optimum Engineering Design (3/0) Topics include: Classical tools in structure optimization, classical methods for constraint's problem, linear programming, the simplex method, duality in linear programming, minimization of function of several variables, specialized quasi-Newton method, constrained optimization, the Kulm-Tucker conditions, quadratics programming problems, sensitivity of optimum solution to problem parameters, aspects of the optimization process in practice, fast analysis techniques.

E0608 Structure Dynamics (3/0) Topics include: One-degree-of-freedom motion, mass-spring-damper system, equations of motion, analytic solutions, force sense and integral, harmonic excitation, multiple-degree-of-freedom, matrix formulation and eigenvalue problem, proportional damping and forced response, state variable approach, continuous system, equations and boundary conditions, analytic solutions to continuous system, energy method B-E beam, Timoshenko beam, Galerkin methods, Rayleigh-ritz method.

E0754 Elasticity (3/0) Topics include: an introduction to cartesian tensors, stress, strain, behavior of engineering materials, linear elastic behavior, boundary value problems, torsion of shafts.

E0764 Digital Control System (3/0) Digital control system provides the necessary insight, knowledge, and understanding required to analyze and design computer-controlled systems, from theory to practical implementation. This course includes an introduction to sampled-data control systems, discretization of analog systems, discrete-time signals and systems, causality, time-invariance, Z-transforms, stability, asymptotic tracking, state-space models, controllability and observability, pole assignment, deadbeat control, state observers, observer-based control design, optimal control. In particular, students will learn modelling and analyzing feedback control systems in which the plant is an analogue, continuous-time system, but where the controller is a digital computer. Once students have acquired these skills, they will learn how to design digital controllers using both traditional transfer function based approaches.

E0795 Linear System (3/0) Topics include: Linear spaces and linear operators, representations of linear system, state space equation, controllability, observability, realization, stability, state feedback and state estimator.

E0906 Combustion (0/3) Topics include: Chemical reactions, review of chemical kinetics, conservation equation for multicomponent reacting system, deformation and deflagration waves of premixed gases, premixed laminar flame, gaseous diffusion flames, turbulent flames.

E0938 Optimal Control (0/3) This course covers: Ordinary minimization problem, hypersurface in RN and minimization with equality constrains, a mathematical programming problem - conditions for optimality, necessary conditions for optimality in a discrete time optimal control, dynamic programming, the Hamilton-Jacobi equation and minimal principle, precise statement of the minimum principle, application to the linear quadratic problem, a function analysis approach to linear quadratic problem with fixed end points.

E1371 Aeroelasticity (0/3) This course introduces the following topics: Uniform string dynamics, uniform beam torsional dynamics, uniform beam bending dynamics, potential flow theory, incompressible flow about airfoil, introduction to static aeroelasticity, wind tunnel models, introduction to aeroelastic flutter, lifting surface flutter, multiple D.O.F. flutter, advance methods for solving flutter boundary, 3-D aeroelastic analysis, static aeroelastic-nonuniform lifting surface, complete aircraft analysis.

E1630 Acoustics (0/3) Topics include: Introduction to acoustics, basic fluid mechanics and thermodynamics, basic properties of acoustics wave, quantitative measure of sound, reflection and transmission phenomena, sound emission.
**E1631 Theory for Experimental Measurements (0/3)** This course introduces basic concepts, data analysis, flow visualization, hot wire system, laser Doppler velocimetry, image processing computer graphics.

**E1632 Viscous Fluid Flow (0/3)** Topics include: a review of fluid dynamics concept, fundamental concepts of viscous flow, fundamental equations of the Navier-stokes equations, laminar boundary layer equations for 2-D incompressible flow, approximate methods of 2-D boundary layer equations, flow stability, linear stability theory, introduction to turbulence, fundamentals of turbulent flow, mixing length theory, turbulent boundary layers with pressure gradient.

**E1634 Mechanics of Composite Material (0/3)** introduction, fibers, matrices and fabrications, behaviors of unidirectional composites, short fiber composites, analysis of an orthotopic lamina, analysis of laminated composites, advanced topics of composites are covered in the course.

**E1725 Structure Statics (0/3)** Topics include: Development of truss equations, development of beam equations, development of the plane stress and plane strain equations, development of the linear strain triangle equations, compression of element, axisymmetric elements, applications of axisymmetric elements, isoparametric formulation of bar element, isoparametric of the plane element, Gaussian quadrature, tetrahedral element.

**E1727 Similarity Method and Perturbation Method (0/3)** This course introduces: General dimensional theory, similitude and modeling, dynamic similarity derived from governing equation and boundary conditions, self-similar solution, local and far field similarity solutions, application to problems from continuum mechanics; The nature of perturbation theory, some regular and singular perturbation problems, the method of matched asymptotic expansions, the method of strained coordinates, application to problems from fluid mechanics and gas dynamics.

**E1728 Flight Safety Analysis (0/3)** This is an advanced course on the modern civil aviation safety analysis. Materials covered include an introduction of safety, aviation safety theories, human factors (both mental and physical), mechanical or maintenance factors, environmental factors, air traffic management (CNS/ATM), aviation accidents analysis, aviation prevention and etc. Besides homework and a final exam, each student is required to submit a project report at the end of the semester.

**E1729 Nonlinear Control Systems (0/3)** This course offers an introduction to the analysis and design of nonlinear systems. Topics include: linearization, equilibrium points, limit cycles, chaotic attractors, stability, Liapunov’s methods, describing functions, Popov and circle criteria, contraction mappings, exact linearization, variable structure, simulation.

**E1940 Estimation and Control (0/3)** This course presents mathematical approaches for estimation and control of dynamic systems. Fundamental state estimation theories and implementation algorithms are covered in the course. Major topics include reviews of probability and random variables, least square estimation, propagation of states and covariance, Kalman filters, extended Kalman filters, $H_\infty$ filters, and some related special topics for aerospace engineering.

**E2125 Convective Heat Transfer (3/0)** This course is an introduction to the fundamentals of heat transfer modes of conduction, convection, and radiation. A brief introduction of the physical concepts of convection, studies of external forced convection, internal forced convection and natural convection, specific equations and correlation for finding heat-transfer coefficients for various geometries and fluid conditions, and heat exchanger analysis are also covered.

**E2192 Satellite Image System (3/0)** Various techniques to enhance, de-blur, segment, and describe image features will be introduced. This course will also present the fundamentals of digital image formation, color models, halftoning, and restoration, and include projects based on implementation of these techniques. Students will be encouraged to develop application-specific modules for medical, satellite, and natural images. Topics will include edge detection, morphological processing, texture analysis, feature extraction, sampling and transforms.

**E2376 Numerical Methods For Engineers (3/0)** This course introduces numerical methods for engineers. Topics covered include: solving large systems of linear equations, finding the roots of a nonlinear equation, curve fitting, numerical differentiation and integration, solving ordinary and partial
differential equations. The objective is to make students understand theoretical backgrounds, error analysis, and computer arithmetic of numerical methods.

**E2715 Advanced Astrodynamics (3/0)** Topics include: two-body problem, orbit maneuver, rigid body dynamics, satellite attitude dynamics, satellite attitude control, rocket performance, space environment, reentry dynamics, the restricted three-body problem, interplanetary trajectories.

**E2931 Numerical Grid Generation (0/3)** Numerical grid generation arose from the need to compute solutions to fluid dynamics PDEs on physical regions with complex geometry. Course materials include structured and unstructured grids, mappings and invertibility, transfinite interpolation, algebraic methods, complex variable methods, PDE methods (elliptic, hyperbolic, and parabolic), and several unstructured grid concepts such as advancing fronts, Delaunay triangulation, etc.

**E2933 Computational Gas Dynamics (0/3)** Computational Gas Dynamics is a branch of computational fluid mechanics which deals with compressible flow. The unique aspects of computational gas dynamics include two phenomena that do not appear in other branches of fluid mechanics. These phenomena are waves (normal shocks, oblique shock and expansion waves) and choking flow (isentropic, isothermal choking). A parallel to the shock seen in gas dynamics is the hydraulic jump witnessed in open-channel incompressible flow. Nevertheless, the shocks in many aspects do not appear in the hydraulic jump, e.g. oblique shock. Choking occurs when there is a disparity between the area difference of the nozzle and the throat and the pressure drop between the inlet and outlet, causing the creation of a shock wave before the outlet to make up for that difference.

**T0081 Research Methodology(1/0)** This is a step-by-step course which helps students review the literature, formulate a research problem, select a method of data collection, establish the validity and reliability of a research instrument, write a research proposal, collect data, process data, and complete a research report.

**T0095 Seminar (I) (0/1)** This course has a two-hour class every one to two weeks. The class invites senior people from industries, research institutes or universities to give presentations about the developments and future directions in their own fields. We also invite graduates from our department who have rich working experience to give talks about their own working fields and communicate with the students after the talk.

**T0096 Seminar (II) (1/0)** This course is going to invited professional speakers to give talks. However, students who take this course are also required to give talks on their research topics.
COLLEGE OF BUSINESS
COLLEGE OF BUSINESS

Dean: Hu, Yi-jen (胡宜仁)

Brief History

The College of Business was established in 1965 as the Department of Business under Tamkang College of Arts and Sciences. In 1980, when Tamkang College was promoted to Tamkang University, the Department of Business was also renamed the College of Business.

The main goal of the College of Business is to cultivate modern businessmen with a global view. The programs are set up with a view to developing professional businessmen with visions for economic growth, business environment and financial policies, and preparing them for a future career or continuing education. As a result of the efforts of current and past deans of the College, together with collaboration with other associated divisions, the College has been growing rapidly.

Currently there are five departments in the College of Business, including the Department of International Trade, the Department of Industrial Economics, the Department of Economics, the Department of Banking and Finance, and the Department of Insurance. Each of the departments has a master's program and the Department of Banking and Finance and the Department of Industrial Economics offer doctoral programs as well. In order to implement the government's policy of making education available to all, the College also offers the Executive Master's Program of Business Administration in the fields of Banking and Finance, International Commerce, Insurance Management, and International Business. This program offers students opportunities to work and continue further education simultaneously, while meeting the needs of the nation's economic development. The Department of International Trade and the Department of Banking and Finance also offer evening programs toward a bachelor's degree. The College of Business currently has 4,800 students and 90 full-time faculty members, over 89% of whom hold a doctoral degree.

Motto and Goals

1. To nurture students with a global vision and future mindset
2. To develop a world-class business school

Future Development

The College of Business has seven goals for its future development. (1) To adjust research and teaching services of each department so as to meet the demands of the future; (2) To recruit teachers who are equipped with Ph.D. degrees and research potentials so as to promote the quality of teaching and research of the faculty; (3) To facilitate exchanges of ideas on teaching methods among the departments of the College in order to integrate different disciplines; (4) To establish collaborative projects with other universities and the industry in order to integrate theories with practices; (5) To promote international academic exchanges, curriculum designs in English and Junior Year Abroad programs to cultivate students' world view; (6) To enhance the functions of the Research Center of Industry and Finance so as to link research resources of the College in collaboration with other universities and accept applied research plans; (7) To train students in professional knowledge and skills by reinforcing the practicality of our curricula.

Course Descriptions

Undergraduate Courses

B0154 Financial Statement Analysis (0/2) This course introduces the objectives of financial statements and helps students to learn the tools and techniques of financial statement analysis to make decisions about investment and finance. The main areas of emphasis include analysis of short-term liquidity, capital structure and long-term solvency, return on investment and of asset utilization, results of operation, and comprehensive analysis of financial statements.

B0408 Futures Studies in Economics (0/3) This course explores trends and emerging issues in the field of global economy, and provides students with an understanding of rising topics for a new era. It
focuses on issues for globalization, knowledge based economy, innovation and industrial change.

**B0416 Personal Finance (3/0)** This course provides students with basic knowledge of personal financial activities. The scope of this course includes cash management, credit card management, auto and other major purchase, buying house and personal investment.

**B0627 B0628 Applied English (I) (II) (3/3)** This is a two semester course aimed at helping students improve the practical use of English through an intensive study of readings, short stories, short quizzes, and interactive conversations in class. The first semester consists of a broad range of topics and multimedia. Students preparing for TOEFL and TOEIC tests will find this course useful. The second semester is focused on business-oriented topics such as trade and public finance. No business background is necessary, and the contents of the two semesters are independent of each other.

**B0964 The Political Economy of the EU (2/0)** The main purpose of this course is to help learners to understand the basic theory and practice about the European Union (EU) with the approach of International Political Economy.

**B1156 Security Analysis (3/0)** The aim of this course is to train students to be professional consultants or analysts. The practice of securities investment is the key point of this course. In the class, both fundamental and technical analysis will be discussed and their application to finding intrinsic value and timing of stocks will be explored. Difficult and abstruse financial theories will not be included.

**B1157 The Guidance of Insurance Professional License (0/2)** This course introduces more than ten examinations for the insurance industry, including the life agency, the property agency, underwriting and claims, Financial Planning Personnel, actuary, FSA, LOMA, CFP, CFA, and so on. After passing the examinations and meeting some requirements, one can get licenses which recognize his expertise and get a ticket to work in the insurance industry. One speaker with the license will be invited to introduce the examination in each class. The speaker will talk about the examination, such as how to prepare for and pass the examination so as to get a career going. Every student will be expected to be a good listener and questioner. A final report and a final exam are required in this course.

**B1395 Personal Risk Management (0/3)** This course is designed for non-insurance major students. The topics of this course include basic concepts of risks, risk management process, coverage of life, health and accident insurance, and strategies of buying insurance for personal risks.

**B1415 Professional English for Finance and Insurance (0/2)** This course is designed to broaden students’ English vocabulary in finance, business and insurance with a focus on the financial market, financial institution, and economic analysis. Students are provided with articles taken from major international newspapers or magazines to study in class. Each article will be reviewed based on the vocabulary, grammar, language structure, and flow of the article.

**B1416 Corporate Governance in Banking and Insurance (0/3)** This course introduces the concept of corporate governance, including regulatory devices, board of directors, supervisors, audit committees, information disclosure, board compensation, and business ethics. Besides, this course focuses on the frame work and implementation of corporate governance in Taiwan and the general principles provided by Organization for Economic Co-operation and Development (OECD), especially global efforts on reforming and setting new standards in finance and banking industries.

**B1417 Seminar of Certificate Financial Planner (0/3)** The main objective of this course is to help students of Business College get the certificate of financial planner. First, we introduce the financial instruments of the financial markets (for example debt, equity, and derivatives securities) and how to use these instruments to help investors to build their whole life investment portfolios. Then we discuss the principles of financial planning and how to apply these principles to help people create their customized financial planning and how to adjust this planning according to different economic and personal condition.

**M0013 Personnel Management (0/2)** This course introduces the comprehensive set of managerial activities and tasks concerned with developing and maintaining a qualified workforce-human resources in ways that contribute to organizational effectiveness, including human resource planning and job analysis, recruiting, training, development, performance management and compensating and rewarding
the workforce.

**M0074 Business Risk Management (0/2)** The purpose of this course is to carefully examine one important type of risks, called pure risks. Once certain fundamental ideas have been presented, the instructor will explain in detail the need for, and the application of, various tools of risk management, first by a business firm and second by a family.

**M0623 Real Estate Investment and Management (2/0)** This course has three main topics.
1. To study the particular nature of real estate properties and the character of real estate securitization in Taiwan and to identify the key elements of supply and demand, buyer market, and seller market due to the growth of and the diversification of society; 2. To analyze the strategic planning, investment steps and process, business portfolios and develop growth strategies of real estate investment; 3. To discuss the superiority of property right, BOT, and future developing trends.

**B1427 Finance and Entrepreneurship (0/2)** In this course, we will invite financial experts or entrepreneurs to make a speech or share their experience. By these, students will be familiarized with the situation and prospect of industries and know how to apply their acknowledge in practice.

**Master's Program**

**B1405 Special Topics on International Finance Credit Program (0/3)** This course exposes the students to a wide range of concepts, issues and practices in international finance. It has a practical orientation and the teaching is based on case studies analyzed in teams. Topics covered include international valuation and exchange risk management issues, as well as international portfolio investment, comparative financial markets and long-term risk exposure.
DEPARTMENT OF BANKING AND FINANCE

Degrees Offered: B.B., E.M.B.A., M.B., Ph.D.

Chair: Chiu, Chien-liang (邱建良)

The Department

The Department of Banking and Finance was established in 1965 as a section of the Department of Banking and Insurance. In 1974, the Department of Banking and Insurance was divided into two departments, the Department of Banking Management and the Department of Insurance. In 1988, the name of the Department was changed to the present one.

The Department of Banking and Finance offers the Bachelor of Business degree. Students are required to take 112 required credits and 23 elective credits in order to qualify for graduation. The objective of the program is to improve students’ decision-making ability as bank managers, portfolio managers and financial managers, after their graduation.

Our Master’s Program of Money, Banking and Finance, established in 1986, offers the degree of Master of Business. The program provides an education that is intensive and specialized within a limited functional area. It aims to improve students’ ability for effective decision-making, facilitate professional growth, and increase managerial ability. It will broaden their knowledge and understanding in the areas of economics, finance, banking, monetary policy and investment analysis.

Faculty

Professors
Chiu, Jong-rong (邱忠榮); Lin, William T. (林蒼祥); Chiu, Chien-liang (邱建良);
Huang, Ho-chuan (黃河泉); Nieh, Chien-chung (聶建中); Shiau, Fung-shyung (蕭峯雄);
Lee, Ming-chih (李命志); Wang, Mei-hui (王美惠); Yuan, Pau-hsin (袁保新);
Yeh, Shao-kuo (葉紹國); Chyan, Chuan-jen (錢傳仁); Chen, Kung-yu (陳功宇)

Associate Professors
Chen, Yu-lung (陈玉瓏); Chuang, Wu-jen (莊武仁); Hsu, Ching-chih (徐靖志);
Liu, Shun-chieh (劉順傑); Ku, Kuang-ping (顧廣平); Lee, Wo-chiang (李沃牆);
Duan, Chang-wen (段昌文); Philip Hsieh, (謝朝宗);
Hsu, Tsuo-ming (徐佐銘); Pemg, Chun-young (彭春陽)

Assistant Professors
Lin, Yun-yung (林允永); Lu, Cheung-sum (路祥琛);
Yang, Sue-chin (楊斯琴); Cheng, Wan-hsiu (鄭婉秀);
Chang, Yuan (張元); Wang, Ren-he (王仁和); Chen, Hung-kun (陳鴻崑);
Huang, Kuei-shu (黃貴樹)

Lecturers
Hu, Yen-wei (胡延薇); Cheng, Huey-ween (鄭惠文)

Degree Requirements

The Department of Banking and Finance offers one program at the undergraduate level (Bachelor of Business) and three programs at the graduate level (Master’s and Ph.D.). The degree requirements for the programs are as follows:

1. Requirements for a Bachelor’s degree in Banking and Finance:
   Completion of 141 credits of courses, including 112 credits of required courses and 29 credits of elective business and finance courses.

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2. Requirements for an Executive Master's degree in Business Administration (EMBA):
Completion of 42 credits of courses, including 30 credits of required courses and 12 credits of elective courses offered by the department.
Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

3. Requirements for a Master's degree in Banking and Finance:
Completion of 38 credits of courses, including 27 credits of required courses and 11 credits of elective courses offered by the department.
Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

4. Requirements for a Ph.D. degree in Banking and Finance:
Completion of 33 credits of courses, including 18 credits of required courses and 15 credits of elective courses offered by the department. Publication requirements before graduation: Students are advised to refer to the department for the requirements. Students are also required to submit a written doctoral dissertation completed under the supervision of a faculty member and pass an oral examination.

Course Descriptions

Undergraduate Courses

**B0071 Investments (2/2)** Covering mainly investment in marketable securities, this course focuses on the investment environment and process. It includes the types of existing marketable securities and where and how they are bought and sold. It is also concerned with how an investor should proceed in making decisions about what marketable securities to invest in and when the investments should be made.

**B0124 Econometrics (3/0)** This course is designed to familiarize students with why econometrics is necessary and to train them in using basic econometric tools.

**B0130 Intermediate Microeconomics (3/0)** This course covers economic models, Short-run and Long-run distinction, tax incidence analysis, strategic equilibrium input demand, capital and the rate of return, and optimal resource allocation overtime.

**B0205 International Financial Management (3/0)** This course deals with the international flow of funds and international financial markets, government influence on exchange rate, international arbitrage and interest rate parity, measurement exposure to exchange rate fluctuations and long-term financing, etc.

**B0263 Money and Banking (3/3)** This course covers the nature and functions of money and finance, commercial banking, central banking, monetary theory, and international monetary relations.

**B0302 Economics (3/3)** This course covers the art and science of economic analysis, some tools of economic analysis, market system, economic decision makers, elasticity of demand and supply, labor markets and labor unions, etc.

**B0373 Intermediate Macroeconomics (3/0)** This course covers the self-adjusting economy-classical macroeconomic theory, business cycles and short-run macroeconomics--the essentials of the Keynesian system, and market failures versus perfect markets, etc.

**B0455 Futures Market (3/0)** This course focuses on the issues regarding futures markets. Topics include pricing, hedging, speculating using commodity, stock index, and interest rate futures contracts.

**B0459 Options Market (0/2)** This course covers the fundamental knowledge of option as a trading vehicle, the option markets, option trading strategies, option pricing models, and Greek sensitivity of option.

**B0512 Bond Market And Investments (2/0)** The objective of this course is to provide coverage of the
products, analytical techniques for valuing bonds and quantifying their exposure to changes in interest rates, and portfolio strategies for satisfying a client’s needs.

**B0736 Financial Quantitative Methods (2/2)** This course focuses on optimization: a special equilibrium analysis, optimum values and extreme values, extreme values of a function of optimization conditions, solving a first-order difference equation, and the Cobweb model.

**B0759 Financial Institution Management (3/0)** This course covers basic finance, calculus, statistics, and microeconomic theory as a prerequisite.

**M0264 Time Series (0/2)** This course combines both theoretical and empirical applications with the intention to teach students how to collect financial data and employ the newly developed econometrics methodologies to fully investigate and analyze the dynamic relationships among real world variables. Basic econometrics concepts and computer operating skills are the prerequisites.

**B1093 Financial Innovation (3/0)** This course provides a basic overview of mathematical statistics and mathematical finance. It is designed as a required preparatory course for financial engineering.

**M0271 Financial Management (2/2)** This course helps to bridge the gap between theory and techniques of the traditional financial management course and the application of those materials in the actual cases.

**M0517 Statistics (3/3)** This course emphasizes applications and fundamental concepts of statistics as well as provides a practical orientation that teaches students how to identify the correct method, calculate the statistics, and properly interpret the results in the context of the question or decision at hand. Students will learn not only the algorithms and techniques used to solve related problems, but also the real-world applications that adopt these methods. Students are encouraged to utilize computers in every respect of this class.

**B0806 Accounting (3/3)** This course offers an introduction to financial accounting, including a study of financial statements of business entities and the measurement and reporting of assets, liabilities, equity, revenues, expenses, and cash flows. Students will be exposed to the procedures and practices involved in recording and processing economic transactions in an accounting information system.

**S0325 Calculus (2/2)** This course offers an introduction to financial accounting, including a study of financial statements of business entities and the measurement and reporting of assets, liabilities, equity, revenues, expenses, and cash flows. Students will be exposed to the procedures and practices involved in recording and processing economic transactions in an accounting information system.

**Master's Program**

**B0066 Investment Policy and Analysis (0/3)** This course covers conceptual and analytical frameworks for formulating investment policies, analyzing securities and constructing portfolio strategies for individuals and institutions.

**B0086 Financial Markets (0/3)** This course aims to enhance students' understanding of the wide range of instruments that are available in today’s financial markets for financing, investing, and controlling risks.

**B0123 Econometrics (0/3)** This course offers an introduction to econometric theory, parameter estimation for single and multiple equation systems, inference and hypothesis testing, and Monte Carlo studies.

**B0128 Microeconomics Analysis (0/3)** This course aims to apply the tools of microeconomics theory to problems in industrial organization, decision-making by the firm, input-output analysis, estimations of economic relationships, evaluation of public projects and welfare economy.

**B0206 International Financial Theory (0/3)** This course offers an examination of the theories of international monetary systems, balance of payments, adjustment of the theories of determinant of international coordination of macro policies, dynamic adjustments, and other special topics.
B0262 Monetary Theory and Policy (0/3) This course covers theory and practice of monetary control, supply and demand functions for money, instruments of monetary control, and channels through which money exerts influence on the economy.

B0340 Banking Theory (0/3) This course presents various theories of bank behavior from the perspective of the microeconomics theory of the firm.

B0371 Macroeconomics Analysis (0/3) This course covers money and general equilibrium, consumption function, theoretical and empirical studies, investment function, liquidity preference and portfolio balance, and the theory of growth economic fluctuation.

B0377 Managerial Policy Analysis (0/2) This course covers management theory and applications of quantitative skills in managerial decision-making and its impact on corporate goals and policies.

B0455 Futures Market (3/0) This course focuses on the issues regarding futures markets. Topics include pricing, hedging, and speculating using commodity, stock index, and interest rate futures contracts.

B0459 Options Market (0/3) This course deals with relationship between option prices, binomial pricing model, Black-Scholes option pricing model, Futures and forwards option contracts, index options, pricing corporate securities, and Exotic options, etc.

B0460 The Theory of Investment (3/0) This course offers a comprehensive study of modern investment theory. Special topics of interest, especially those related to recent advances in the academics and practices, will be introduced and discussed.

B0461 The Theory of Finance (3/0) This course presents an introduction to the six seminal theories upon which modern finance is founded: utility theory, state-preference theory, mean-variance theory and the CAPM, APT, option pricing theory, and the M-M theorems.

B0508 Financial Engineering (3/0) This course introduces various tools in financial engineering and trains students in how to apply them in risk management and in financial problem solving.

B0512 Bank Market and Investments (0/3) This course covers the products of the fixed income market, the risk associated with investing in fixed-income securities, and the fundamentals of valuation and the interest rate measurement.

B0611 Applied Econometrics (0/3) This course is designed to help students understand the Autoregressive Integrated Moving Average Models, Vector Autoregression, Unit Roots, Cointegration and Error Correction Model, Generalized Method of Moments Estimator, Autoregressive Conditional Heteroscedasticity Models, Simulation Models, and Monte Carlo Studies.

B0696 Financial Institution Management (0/3) This course includes the following four parts: introduction to financial services industry, sources of risk and return, how to measure risk and return, and how to manage risk and return.

B0697 Corporate Financial Policy (3/0) This course is designed to help students understand the investment, financing, and dividend decisions under both perfect and imperfect capital markets.

B0699 Interest Rate Derivatives (3/0) Topics of this course include: Interest rates and Duration, Model of the behavior of Stock Prices, The Black-Scholes Model, Numerical Procedures, Extentions of the theoretical framework for Pricing Derivatives, Interest rate derivatives, and Interest rate derivation.

B0710 Macroeconomic Theory (3/0) This course covers the following: The Slow Growth Model, The Ramsey-Cass-Koopmans Model, New Growth Theory, and The Overlapping Generations Model and Money.

B1009 Financial Research Method (2/0) This is a course in introductory financial research
methods. The aims of this course are: (1) to introduce to students empirical topics relevant to financial academics and practitioners; (2) to train students in implementing research ideas to practice via econometric modeling and tools.

**M0483 Bank Management (0/3)** This course covers policies and decisions of commercial bank managers on organization, personnel, credit, asset, liability and capital management within the legal, competitive and economic environment.

**S0425 Quantitative Methods (3/0)** Topics of this course include linear algebra, calculus, difference and differential equations, and linear and non-linear programming and operations research.

**Ph.D. Program**

**B0411 Risk Management (3/0)** This course is designed to overview the cutting-edge quantitative techniques for quantitative risk management or financial econometrics, e.g. multivariate value-at-risk estimation, credit risk modelling, and stochastic variance modelling.

**B0711 Seminar on Macroeconomic (0/3)** Topics of this course include: The Real Exchange Rate and the Terms of Trade, Uncertainty and the International Financial Markets, Imperfections in International Capital Markets, Global Linkages and Economic Growth, Nominal Price Rigidities Empirical Facts and Basic Open-Economy Models, etc.

**B0712 Advanced Econometrics (3/0)** This course is designed to help students understand the Optimization and Non-linear Regression Models, Non-parametric Estimations, Models for Panel Data, Models with Discrete Dependent Variables, Limited Dependent Variable and Duration Models, and State Space Models and Kalman Filter Method.

**B0714 Seminar on Investment Theory (3/0)** This course is designed to provide students with an exposure to empirical investments in different topics. In most of the meetings, the instructor will lead discussions of the materials while the papers will be assigned to specific students who are responsible for presenting and leading discussions of the paper.

**B0715 Seminar on Microeconomic Theory (3/0)** This course focuses on special topics of microeconomics, with attention paid to cost and profit, consumer behavior, uncertainty, game theories, and market structure.

**B0705 Advance Mathematic Finance (3/0)** This is a course about advanced financial economics and financial modelling, which enables the students to apply the methods to research and analysis.
DEPARTMENT OF INDUSTRIAL ECONOMICS

Degrees Offered: B.A., M.A., Ph.D.

Chair: Lin, Chun-hung (林俊宏)

The Department

The Department of Industrial Economics was derived from the previous Department of Cooperative Economics in 1992. Our teaching objective is to provide students with basic knowledge in the field of Industrial Economics and to prepare them for both further studies and future employment. We also encourage students’ enthusiasm and enhance their ability in research. Our ultimate goal is to make this department a research center of Taiwan's premier industrial economics.

Our graduate program of Industrial Economics was established in 1993. Its teaching objectives are to train students to have a professional knowledge of Industrial Economics and a strong ability for further study and employment. Furthermore, we stimulate students' enthusiasm and ability for advanced research.

Faculty

Professors
Mai, Chao-cheng (麥朝成); Hsu, Song-ken (許松根); Liang, Wen-jung (梁文榮);
Hu, Ming-wen (胡名雯); Lin, Chun-hung (林俊宏)

Associate Professors
Chuang, Meng-han (莊孟翰); Tsai, Ching-ting (蔡進丁); Chen, Yi-heng (陳宜亨);
Hu, Teng-yuan (胡登淵)

Assistant Professors
Hung, Ming-feng (洪鳴豐); Lin Pei-chien (林佩蒨); Hung, Hsiao-wen (洪小文);
Lee, Shun-fa (李順發); Chie, Bin-tzong (池秉聰); Liu, De-chih (劉德芝)

Degree Requirements

The Department of Industrial Economics offers one program at the undergraduate level (Bachelor of Business) and two programs at the graduate level (Master's and Ph.D.). The degree requirements for the programs are as follows:

1. Requirements for a Bachelor's degree in Industrial Economics:
   Completion of 136 credits of courses, including 95 credits of required courses and 15 credits of elective industrial economics courses.

2. Requirements for a Master's degree in Industrial Economics:
   Completion of 33 credits of courses, including 23 credits of required courses and 10 credits of elective courses offered in the department. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

3. Requirements for a degree of Ph.D. in Industrial Economics:
   Completion of 40 credits of courses, including 18 credits of required courses and 22 credits of elective courses offered in the department. Publication requirement before graduation: Students are advised to refer to the department for the requirement. Students are also required to submit a written doctoral dissertation completed under the supervision of a faculty member and pass an oral examination.

Course Descriptions

Undergraduate Courses
B0061 Marketing (2/2) This course offers an analysis of marketing strategies and their effects.

B0124 Econometrics (2/2) This course provides training in econometrics and the related software.

B0130 Microeconomics (3/3) This course offers an introduction to modern microeconomic theories, including consumer, firm, market competition, welfare theories.

B0146 Public Finance (2/2) The first semester offers an introduction to finance, public revenue, and taxation; the second semester deals with taxation particulars, public bonds, financial policy, and financial administration.

B0202 International Finance (3/0) This course discusses some basic issues in International Finance, such as the basic components in the balance of payments, various models of the determination of exchange rates, and other economic variables.

B0251 Industrial Policy (3/0) This course conducts an economic analysis of Industrial Policy.

B0253 Industrial Economics (2/2) This course studies how productive activities and demand for goods and services through some organizing mechanism, and how variations and imperfections in the organizing mechanism affect an economy's wants.

B0263 Money and Banking (2/2) This course deals with the nature and functions of money and finance, commercial banking, central banking, monetary theory, and international monetary relations.

B0301 Economics Mathematics (2/2) This course offers an elementary introduction to mathematical tools used by economists.

B0302 Economics (3/3) This is an introductory course in economics, including an introduction to microeconomics and macroeconomics.

B0364 Industrial Organization (I) (3/0) This is an advanced course in firm organization, market structure and firm strategies.

B0365 Industrial Organization (II) (0/3) This course presents an advanced introduction to the newly developed fields in IO, including e-commerce, spatial competition, transaction cost, network externality, etc.

B0373 Intermediate Macroeconomics (3/0) This course presents an advanced introduction to New Classical and New Keynesian theories.

B0453 Financial Management (2/2) Topics of this course include current assets management, capital budgeting, financing policy, and capital structure.

B0475 Economics of Regulation (0/3) This course provides an introduction of the theory of government activities, methods of policy analysis, and the theoretical analyses of the effects of various policies.

B0481 Business Management (2/2) This course provides an introduction to the basic theories and practices of management. It aims to develop students' capability of environmental recognition, adaptation, and creation.

**Master's Program**

B0253 Industrial Economics (3/0) This is an advanced course in market structure and firm strategies.

B0364 Industrial Organization (I) (3/0) This is an advanced course in firm organization, market structure and firm strategies.

B0373 Intermediate Macroeconomics (3/0) This course presents an advanced introduction to New Classical and New Keynesian theories.

B0475 Regulatory Economics (0/3) This is an advanced course in market failure and the associated regulatory measures, including antitrust regulations.
B0531 Microeconomics (I) (3/0) This course offers an advanced introduction to consumer and firm theories.

B0532 Microeconomics (II) (0/3) This course offers an advanced introduction to market competition and welfare theories.

B0534 Econometrics (I) (3/0) This course offers an advanced training in econometrics and the related software.

B0535 Econometrics (II) (0/3) This course offers an advanced training in econometrics and the related software.

B0632 Theory of Price (I) (3/0) This course offers an advanced introduction to consumer and firm theories.

B0633 Theory of Price (II) (0/3) This course offers an advanced introduction to market competition and welfare theories.

B0720 Fiscal and Monetary Policy (3/0) This course offers an advanced course in fiscal and monetary policies and their effects.

S0426 Quantitative Analysis (II) (0/3) This course offers an advanced training in econometric modeling and the related software.

S0677 Quantitative Analysis (I) (3/0) This course offers an advanced training in econometrics and the related software.

Ph.D. Program

B0712 Advanced Econometrics (3/0) This course is intended for first year Ph.D. students in economics. The design is to provide a foundation for modern econometric theories, which can be applied to empirical analysis in microeconomics and macroeconomics.

B0981 Advanced Microeconomics (I) (3/0) This course provides basic trainings for Ph.D. students in economics so as to prepare them for academic research. Game theory and its applications will be emphasized.

B0982 Advanced Microeconomics (II) (0/3) This course provides an advanced training for Ph.D. students in economics so as to prepare them for academic research. Students are required to read a category of papers and to complete a qualifying term paper.

B0983 Advanced Industrial Economics (I) (3/0) This course is the first part of the advanced IO course for Ph.D. and well prepared Master's students. It is designed to further graduate students' knowledge about recent topics and methods of the field of IO. The students enrolled are supposed to have already been familiar with basic IO concepts.

B0984 Advanced Industrial Economics (II) (0/3) This course is intended to give students a full exposure to theoretical and empirical work in industrial organizations. Topics include market concentration, industry dynamic, R&D, international spillovers and intellectual property rights.

B0985 Advanced Intermediate Macroeconomics (0/3) This course introduces students to a number of areas of study in modern macroeconomics. The class starts by a brief review of a subset of methods used for solution of dynamic macroeconomic models, followed by dynamic models of the macroeconomy that focus on real variables. Real business cycle models and the basic building block of modern neoclassical macroeconomics will be examined. Then, various extensions of the basic model--sticky price and wage models, models of imperfect competition, and models with externalities--will be introduced. The course will conclude with endogenous growth models with(out) money.
DEPARTMENT OF INSURANCE

Degrees Offered: B.A., M.B.A.

Chair: Kao, Tong-liang (高棟梁)

The Department

With the rapid progress in economy and the rise of living standards, insurance has become an important instrument in family finance and business management. To train students for future careers in this field, the Department of Insurance and Banking was inaugurated in 1965. In 1973, the insurance program was developed into the Department of Insurance, the first in Taiwan. Two years later, the evening school of the department was added. In 1991, one more class was added to the evening school to meet the growing demands of the insurance market. In 1997, the evening school was changed to the regular program in order to conform to the revision of the college act. Since then, three classes of students are enrolled in the program every academic year. The Master's Program in Insurance Management was established in 2000, and Executive MBA (EMBA) in 2001. The purpose of this program is to incorporate the resources of government, industry, and university to enhance the research level.

There are four features in our program. First, the faculty in our department has both academic training and working experience. Secondly, the course is designed to emphasize theoretical area and practical topics. It includes business travel, speech, and discussion. Thirdly, the department recruits internationally renowned insurance scholars to broaden students' perspectives. Finally, the department encourages students to get professional licenses that are helpful to their future career planning.

Our future development will be the following. First, our focus will be shifted to a finance-oriented one. In order to meet the change of financial environment, we will intensify the area in international insurance and financial insurance. Also, we intend to collaborate closely with government agencies and related institutions to get more projects. Finally, we strive for an academic exchange with foreign universities and encourage our faculty and graduate students to participate in the insurance conferences in China.

Faculty

Professors
Hu, Yi-jen (胡宜仁); Liao, Shuh-yuan (廖述源); Miao, Jerry C. Y. (繆震宇)

Associate Professors
Hao, Chung-jen (郝充仁); Lin, Li-chu (林麗銖); Kao, Tong-liang (高棟梁);
Lai, Yao-shyan (賴曜賢); Wang, Chi-ling (汪琪玲); Chen, Li-juan (陳麗娟);
Wu, Jyh-shyang (伍志祥)

Assistant Professors
Tsen, Miao-huei (曾妙慧); Tien, Jyun-ji (田峻吉); Tang, Hui-wen (湯惠雯)

Lecturer
Wu, Yueh-lung (吳月瓏)

Degree Requirements

The Department of Insurance offers one program at the undergraduate level (Bachelor of Business) and two programs at the graduate level (Master's). The degree requirements for the programs are as follows:

1. Requirements for a Bachelor's degree in Insurance:
   Completion of 142 credits of courses, including 111 credits of required courses and 25 credits of elective insurance courses.

2. Requirements for an Executive Master's degree in Business Administration (EMBA):
Completion of 36 credits, including 9 credits of required courses and 27 credits of elective courses offered in the program. Students are also required to submit a written thesis completed under the supervision of a faculty member and pass an oral examination.

3. Requirements for a Master's degree in Insurance:
Completion of 36 credits of courses, including 13 credits of required courses and 23 credits of elective courses offered in the department. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

Course Descriptions

Undergraduate Courses

**B0001 Life Insurance (2/2)** This course covers product analysis of the contract; organization, management, and regulation of life insurance companies, reinsurance law, and problems of life insurance in the ROC.

**B0017 Fire Insurance (2/0)** This course offers an introduction to property insurance, characteristics of fire insurance, analysis of fire insurance policy, fire rate and premium, endorsements of allied perils, extra clauses, and business interruption insurance.

**B0033 Essentials of the Civil Law (2/2)** This course addresses the basic concept of the Civil Law. The instructor will particularly focus on the general principles of the Civil Law, family law and the law of inheritance.

**B0037 Reinsurance (0/2)** Topics of this course include development of reinsurance markets, elements and principles, facultative reinsurance, treaty reinsurance-pro rata, treaty reinsurance surplus share, excess reinsurance, contract wording and accounting.

**B0071 Investment (3/0)** This course introduces fundamentals of investing. We will talk about Taiwan’s stock market, global stock markets, modern portfolio theory, CAPM, fundamental analysis, technical analysis, and derivatives. Every student will be expected to be a good listener and questioner. A final report and two exams are required in this course.

**B0095 Insurance Marketing (0/2)** This course introduces the types of marketing systems, channels of distribution in insurance, marketing strategies, and products of life insurance and no-life insurance for sales.

**B0097 Insurance Law (3/0)** Topics of this course include the nature of law, insurance interest agents and brokers, remedies, waiver and estoppels, rescission, reformation, warranties misrepresentation and concealment subrogation.

**B0102 Insurance Accounting (3/0)** This course covers individual transactions, assets, liabilities, capital, surplus, policy reserve liability, and summary financial statements.

**B0109 Insurance (2/2)** Topics of this course include: risk and risk management; insurance contract principles; insurance organizations; insurance marketing; insurance pricing; life and casualty insurance.

**B0126 Risk Management (2/0)** This course covers basic definitions: risk, degree of risk, peril, hazard, loss; objectives and process of risk management, methods of risk handling, risk control, risk financing; risk analysis; life, property and liability exposures.

**B0173 Commercial Law (0/2)** This course aims to acquaint students with the concepts of laws dealing with related industry and business. Emphasis will be placed on the Company Law and the law of bills and notes.

**B0406 Personal Insurance II Health and Accident Insurance (0/2)** This course offers an introduction to: private and government health and accident insurance; product development; product underwriting, pricing and marketing; and practical issues and regulations.
B0407 Personal Insurance III: Pension Insurance (2/0) This course covers the development of pension and annuity insurance, elements and principles, individual annuity, business pension program, national pension system, international pension system comparison.

B0417 Life Insurance Mathematics (2/2) This course covers measurement of risk in life insurance, annuities, net single premiums, net level premiums, gross premiums, life insurance reserves, surrender values, surplus distribution, and mathematics of retirement.

B0451 Transportation (0/2) This course offers an introduction to transportation insurance and marine insurance, perils of the seas, fires, total loss, general average, particular average, institute clause, concept of inland marine insurance, and concept of air cargo insurance.

B0452 Property Insurance III: Liability Insurance (0/2) This course covers liability insurance policies, general liability program, professional liability forms, personal liability forms, recent developments in liability insurance, workers’ compensation, and historical development of workers’ compensation insurance policies.

B0482 Property Insurance IV: Motor Insurance (2/0) This course offers an introduction to motor insurance, motor physical damage coverage and liability coverage, discussion of its merits and demerits.

B0498 Property Insurance V: Casualty Insurance (2/0) This course covers the following topics: nature and scope of casualty insurance; crime insurance, engineering insurance, aviation insurance; fidelity and surety bonds; credit insurance and credit card insurance.

B0574 Act Insurance I: Social Insurance (2/2) This course offers a definition of social insurance, field and functions of social insurance, real meaning of social security, social security and national planning, and comparison of social welfare programs in various countries.

B0575 Property Insurance Company Operations (2/0) This course covers the following topics: Insurance market dynamics; management organization; functions of operation: marketing, production, pricing, underwriting, reinsurance, loss adjustment; investment practices; statutory insurance accounting requirements; analysis of financial statements; loss prevention research by insurers.

B0576 Personal Insurance Company Operations (2/0) This course covers basic theories and practices for Personal Insurance management, current status and future development of Personal Insurance in Taiwan, Personal Insurance finances, Personal Insurance organizations operating, Personal Insurance supervisions and management, Personal Insurance contracts and regulations.

B0617 Product Design for Property Liability (0/2) This course discusses the following topics: how to reevaluate old policies; to understand marketplace and risk management; to prepare business for action; to know insurance coverage options; to motivate insurance people; and effective negotiation tactics.

B0663 Act Insurance II: Export Insurance (0/2) This course deals with the risk of international trade, the character and operation of Export Insurance, Export Insurance in the U.K., Export and Import Insurance in Japan, Export Insurance in R.O.C. and the development of Export Insurance.

B0700 Employee Benefit Plan (2/0) This course introduces the meaning of employee benefit, explains the significance of employee benefit in terms of both employer cost and benefits provided to employees, identifies the factors that have influenced the growth of group insurance, and explains the significance of each factor. It covers social insurance plans, group life insurance, group disability income insurance, group medical expense insurance, and retirement plans.

B0856 Long-Term Care Insurance (2/0) For many students, long-term care is synonymous with the nursing home. The clientele are defined on the basis of disability, both young and old. Thus the policy contest, its nature and purpose, and care service will be discussed in this course.

B0988 Special Topics in Risk Management and Insurance (0/2) This course covers special topics for synthetic analysis, mainly focusing on current events or newly approved regulations or laws.
B1154 Selected Topics in Non-life Insurance (2/0) This course introduces the famous recent case of non-life insurance. The discussion involves different viewpoints, including the insurer and the insured. Through this training, students will have a better understanding of the laws that govern non-life insurance.

B1240 Financial Management Analysis (0/3) Topics of this course include yield rates, amortization schedules and sinking funds, bonds and other securities, more advanced financial analysis and some practical applications.

B1241 Practice of Asset Liability Management for Insurance Company (2/0) This course covers several important topics: Asset Liability Management (ALM) for insurance company including balance sheet; Risk Based Capital (RBC); and asset liability management for life and property-liability insurers.

B1362 The Analysis Of Insurance Economics (2/0) This course is designed to familiarize students with the basic concepts of economics which are applied to the field of insurance. The organization of this course includes five parts: risk, risk aversion, and expected utility; insurance demand; insurance supply and pricing; the insurance industry organization; and the asymmetric information problems in the insurance market.

B1363 The Topics On Investment-Oriented Policy (3/0) This course provides students with basic knowledge of investment-linked insurance policy, including the characteristics of the policy, product design, regulatory reform and related issues between agents and policy-owners. The course also aims to enable students to learn about the investment tools, the expertise of portfolio management and personal finance associated with the policy.

M0271 Financial Management (3/0) This course helps to bridge the gap between theory and techniques of the traditional financial management course and the application of those materials in the actual cases.

M0339 Accounting (3/3) This course offers an introduction to financial accounting, including a study of financial statements of business entities and the measurement and reporting of assets, liabilities, equity, revenues, expenses, and cash flows. Students will be exposed to the procedures and practices involved in recording and processing economic transactions in an accounting information system.

S0325 Calculus (2/2) This course covers the nature and functions of money and finance, commercial banking, central banking, monetary theory, and international monetary relations.

M0517 Statistics (2/2) This course emphasizes applications and fundamental concepts of statistics as well as provides a practical orientation that teaches students how to identify the correct method, calculate the statistics, and properly interpret the results in the context of the question or decision at hand. Students will learn not only the algorithms and techniques used to solve related problems, but also the real-world applications that adopt these methods. Students are encouraged to utilize computers in every respect of this class.

Master's program

B0127 Risk Management Special Project (0/3) This course is designed for master's students to understand the contemporary developments in techniques of risk management and how these techniques are used to identify, analyze and manage risks in business. The course includes not only the traditional pure risk management but also the modern financial risk management.

B0263 Money and Banking (3/0) This course covers the nature and functions of money and finance, commercial banking, central banking, monetary theory, and international monetary relations.

B0575 Property Insurance Company Operations (3/0) Topics of this course include: Insurance Market Analysis; Organization Management; Marketing Systems; Production of Insurers; Policy pricing; Underwriting Policy; Reinsurance Placing; Loss Adjustment; Investment Practices; Statutory Insurance Accounting Requirements; Analysis of Financial Statements; Loss Prevention and Risk...
Management to Insurers.

**B0576 Personal Insurance Company Operations (3/0)** This course presents questions and discussions on Personal Insurance operating, discussions on Personal Insurance organizations operating problems, researches and discussions on Personal Insurance finances, analysis of operating strategies, overall discussions on Personal Insurance operating.

**B0629 Insurance Regulations and Supervisions (3/0)** This course presents IAIS core principle, open market, market conduct, solvency, and RBC.

**B0631 Financial Management of Insurance (3/0)** This course offers an introduction to financial management; risk management; derivative markets for insurers; security insurance risk; risk based capital; value at risk.

**B0796 Insurance Theory (3/0)** The contents of this course include: (1) the theory of insurance, (2) the finance of insurance, (3) the status quo of our insurance management, and (4) the current problems for our insurance and the improvements thereof.

**B0797 Advanced Study in Transportation Insurance (2/0)** This course includes the conditions of B/L. (Hague Rules, Hague-Visby Rules, Hamburg Rules), the analysis of Institute Cargo Clauses and Institute Hull Clauses, the key divergences between English and American Law of Marine Insurance.

**B0798 Advanced Study in Fire Insurance (3/0)** This course presents principles of insurable interest, utmost good faith, indemnity, contribution, subrogation, and proximate cause applied in fire insurance; analysis of homeowners policies, and practice and theory of business interruption insurance.

**B0799 Advanced Study in Casualty Insurance (0/2)** Topics of this course include: Automobile Insurance; Crime Insurance; Credit Insurance; Bonding Insurance; Engineering Insurance; Aviation Insurance; Title Insurance; Glass Insurance; Personal Accident Insurance; Other Miscellaneous Casualty Insurance; Multiple Lines Insurance; Special multi-perils policy.

**B0800 Advanced Study in Life Insurance (2/0)** This course includes five parts: (1) study in u-linked life insurance product; (2) the impact on Taiwan life insurance market after entering the WTO; (3) article 107 of life insurance law; (4) study in moral hazard in life and health insurance; and (5) life insurance investment management.

**B0802 Advanced Study in Health and Accident Insurance (2/0)** This course presents the definition and principles of health and accident insurance, HMO and DRG system, moral hazard associated with health and accident insurance, and national health insurance.

**B0830 Advanced Study in Social Insurance (0/3)** The principles and concepts of social insurance include pension insurance, health insurance, unemployment insurance, employment injury insurance, finance and current social insurance schemes.

**B0831 Comparative Study in the Laws and Regulations of Insurance (2/0)** This course offers comparative studies of our current Insurance Law with those of the U.S., U.K., Japan, Germany and France. By way of these comparative studies in the course, we will discuss the trend for amending the law.

**B0882 International Risk and Insurance (0/2)** The purpose of this course is to encourage students to reflect thoughtfully about the effects of change on risk and its management in an international context. This course emphasizes: The Political, Legal, Physical and Technological Environments Worldwide; Insurance and Risk Management in an International Setting; and The Future Environment for International Risk and Insurance.

**B0925 Advanced Study in Personal Insurance (0/3)** This course focuses on topic discussions, including risk-based capital, policy dividend, U-link policy, long-term care and bancassurance, etc.

**B0987 Advanced Study in Property and Liability Insurance (3/0)** This course covers analysis and discussion on property and liability insurance policies, including fire, automobile, marine, inland
marine, aviation, liability, guarantee, and other property insurance.

**B1005 Managing Pension Plan (3/0)** Topics of this course include: Introduction to DB and DC plans; choosing the best pension plan; establishing pension investment policy; the asset allocation decision; setting the strategic asset allocation; measuring the investment performance of pension funds; improving pension fund investment performance; measuring pension fund risk; risk management strategies using derivative securities; managing managers and the costs of investing; recent development in pension management.

**B1232 Advanced Study in Annuity Insurance (2/0)** This course includes Development of Pension Market, Defined Benefit (DB), Defined Contribution (DC), Employee Stock Ownership Plan (ESOP), Stock Bonus Plan, Tax-sheltered Annuity, Individual Retirement Account, 401 (K) plan, and Market-value annuity.

**B1233 Practice of Asset Liability Management for Insurance Company (0/3)** This course covers several important topics of Asset Liability Management (ALM) for insurance company. They are: balance sheet; Risk Based Capital (RBC); asset liability management for life and property-liability insurers.

**B1346 Actuarial Mathematics (0/3)** This course is intended to introduce actuarial in broader perspectives. First, survival model and life table are integrated into a new framework. Then, net premium and reserve are put into a broader introduction. Finally, population and pension funding theories are put together in order to meet the trend of elder generation.

**B1361 Advance Study On Insurance Economics (3/0)** This course is designed to offer graduate students an overview of current research with reference to the main contributions in different fields. The course includes five parts: the insurance theory without information problems; the theory of asymmetric information; the empirical study of asymmetric information; risk management and insurance pricing; and industrial organization of insurance market.

**B1381 Study On Insurance Statistics (0/3)** This course focuses on the analysis of quantitative data in insurance research and introduces (1) data collection, conversion and analysis, and (2) descriptive statistics, correlation analysis, data tests and regression analysis. By the end of the course, students should be able to (1) articulate different analysis approaches for a particular quantitative study, (2) write a simple program to analyze data using Statistics Analysis System (SAS), and (3) finish an analytical paper.

**B1388 Seminar On European-American Financial Market Law (2/0)** This course introduces finance and insurance laws and regulations in Europe and America, including globalized corporate government, finance market, Basel Accords, international finance supervision.

**B1408 Special Topics on Product Design of Insurance (3/0)** This course introduces the principles and requirements of product design for the insurance industry, and after that, the students freely select subjects to practice, followed by rectification from the instructor.

**S0425 Quantitative Methods (0/2)** The main purpose of this course is to introduce the concepts of quantitative methodology for master students. To begin with, we will go through some important topics about quantity, for example: matrix, statistics, ordinary least square (OLS) and weight least square (WLS), etc. Then, some quantity software such as SAS and Matlab will be introduced in the classes. After completing this course, students are expected to have the ability to deal with quantitative problems in the process of writing their essays.

**T0081 Research Methodology (0/3)** Topics of this course include: Introduction to research; Computer Technology and Research; Research process; Experimental designs; Data collection methods; Sampling; Data analysis and Interpretation; Research report.
DEPARTMENT OF INTERNATIONAL BUSINESS

Degrees Offered: B.B., M.B.A. E.M.B.A

Chair: Chia, Chao-nan

The Department

The Department of International Trade was established in 1963 in order to adapt to the nation's economic development and cultivate students with specialized knowledge in commercial affairs in general and in international commercial affairs in particular. In the early stage, classes were only taught in the evenings. In 1965, the Department was reorganized and started to offer classes in both the daytime and evening divisions, with two classes of students enrolled in each division per year. In 1982, the Department was expanded and had three classes enrolled for both daytime and evening divisions. Courses offered at that time were mainly concerned with theories, policies, and practices that are related to economics, marketing, finance, and foreign trade.

In the 1990s, because of the economic changes worldwide, domestic enterprises were becoming more and more globally concerned and were seeking foreign subsidiaries and branches. To cope with the need of the time, the Department began to add courses related to international business management and international investment to its undergraduate curriculum.

The graduate program of international business was established in 1992, and it offers the degree of Master of Business Administration (MBA). The MBA program, aimed at training middle to high ranking managers for multinational enterprises, provides education and research facilities that are intensive and specialized in the following four areas: international business management, international marketing, international financial management and planning, and international investment decision making. These and other relevant courses are designed to match the current trend of the nation's economic development toward internationalization and liberalization.

In the 1997-1998 academic year, the graduate program was divided into two subprograms, namely, the International Business Program, and the International Economics, Investment, and Trade Law Program. In the same academic year the undergraduate program went through a drastic change by stopping enrolling students for the evening division, and as a result, the program enrolled four classes of regular students.

In the 2000-2001 academic year, the undergraduate program established an extension program to enroll one class of high-school graduates who have left school for at least one year, and thus the four classes of regular students were reduced to the current three. Moreover, in the meantime, the graduate program began to enroll a class of college graduates who have been on their jobs for more than three years.

In the 2002-2003 academic year, with an aim to carry out the Ministry of Education's policy of lifelong study in higher education, the Department set up a new graduate program offering the degree of Executive Master of Business Administration in International Commercial Sciences (IMBA). The IMBA program, focused on training high-ranking managers for multinational enterprises, provides education and research facilities that are specialized in international marketing, international financial management, international insurance, and international economics. Required courses are lectured mainly in English, while optional ones are taken abroad in an intensive course fashion. With the joint effort of high-ranking managers and the faculty of the college of business, this program works hard to make business decisions, grasp current multinational investment environment, explore and solve problems related to multinational business.

In the 2003-2004 academic year, to promote the internationalization policy of the university and highlight the special features of its development, the Department redesigned its undergraduate program and set up a brand new program--the Undergraduate English Instruction Program. The curriculum was redesigned to adapt to the one-year Junior Year Abroad program. All the courses of the program are instructed in English except for the general courses. The major courses of the first two years of study focus on the fundamental theories related to international business. The Junior Year Abroad Program emphasizes international marketing, international business management, international financial management, and international economics. The fourth year curriculum highlights the features of the development of the Department in the nation.
To match up with the trend of the domestic industry and education and the change of the global business world, the department has changed its name to the Department of International Business since 2010.

Faculty

Professors
Huang, Chih-wen (黃志文); Lin, Yi-nan (林宜男); Lin, Jyh-horng (林志鴻); Fu Chin-Mei (高金美); Chen, Kan-nan(陳幹男); Chang, Der-wen(張德文)

Associate Professors
Chang, Chun-hui (張俊惠); Chia, Chao-nan (賈昭南); Lai, Chin-chang (賴錦璋);
Lee, You-kong (李又剛); Lin, Chiang-feng (林江峰); Lin, Kien-tsu (林健次);
Liu, Chu-mei(劉菊梅); Pan, Yuh-yeh (潘玉葉); Tseng, I-ming (曾義明); Pao, Shih-hen (鮑世亨);
Gan, Yung-yu(干詠穎); Huang, Yung-yu (黃永裕)

Assistant Professors
Hsieh, Chih-jou (謝志柔); Ho, I-fang(何怡芳); Huang, Je-sheng (黃哲盛);
Lin, Mei-rong (林美楨); Liu, Yi-cheng (劉一成); Tsai, Jeng-yan (蔡政言); Su, Chi-Wei(蘇志偉);
Tseng-Chun-hui(曾忠蕙); Wang, Ling-kang (王靈康)

Lecturers
Chan, Shiou-jung (詹秀蓉); Teng, Yu-ying(鄧玉英); Tseng, Hsiu-mei (曾秀美);
Hwang Yih-lin (黃奕琳); Chen, Wen-her (陳文和)

Nursing (I) lecturer
Shih, Shu-fen (施淑芬)

Degree Requirements

This department offers two programs at the undergraduate level (Bachelor in Business), and three programs at the graduate level (Master's in Business). The different degree requirements are as follows:

1. Requirements for a degree of Bachelor in International Trade:
   Completion of 138 credits, including 96 credits of required courses and 20 credits of elective courses offered by the department.

2. Requirements for a degree of Bachelor in International Trade:
   Completion of 128 credits, including 87 credits of required courses and 17 credits of elective courses offered by the department. (All the courses, except some general education courses, are lectured in English.)

3. Requirements for a Master's degree in Business Administration (MBA):
   Completion of 42 credits, including 18 credits of required courses and 24 credits of elective courses offered by the institute. Students are also required to submit a written thesis completed under the supervision of a faculty member and pass an oral examination.

4. Requirements for an Executive Master's degree in Business Administration (EMBA):
   Completion of 40 credits, including 7 credits of required courses and 33 credits of elective courses offered by the institute. Students are also required to submit a written thesis completed under the supervision of a faculty member and pass an oral examination.

5. Requirements for an Executive Master's degree in International Business Administration (IMBA):
   Completion of 34 credits, including 4 credits of required courses and 30 credits of elective courses offered by the institute. Students are also required to submit a written thesis completed under the supervision of a faculty member and pass an oral examination.

2010-2011 TAMKANG UNIVERSITY CATALOG
Course Descriptions

Undergraduate Courses

A0582 Business English Conversation (2/0) This course is designed to develop students' skills of listening, speaking, reading and writing in English for a variety of business situations. It focuses on day-to-day communication needs such as telephoning, socializing, and negotiating.

A0945 Business Japanese Conversation (2/0) This course aims to improve students' ability of listening, speaking, reading and writing in Japanese. The teaching materials include daily life, culture, business activities, etiquette, etc.

B0033 Essentials of Civil Law (3/0) This course focuses on the basic legal structure of civil affairs. Topics include, but are not limited to, laws governing contracts, lease agreement, mortgage, marriage, and family.

B0061 Marketing (3/3) This is an introductory course, teaching the roles of marketing, marketing ethics, consumer behavior, selection of market, and strategies on product, pricing, distribution, and promotion.

B0109 Insurance (0/3) This course summarizes the pervasive nature of pure risk on the individual and illustrates the way in which insurance can be used to deal with the problems posed by such risk.

B0130 Microeconomics (3/0) This course focuses on analytical skills for microeconomics problems. Topics include consumer theory, theory of the firm, market structure, and elementary welfare economics.

B0173 Commercial Law (0/3) This course presents a survey of laws governing various forms of corporate organizations, and laws governing commercial papers, including promissory notes, bills of exchange, and checks.

B0191 International Business Management (3/3) This is a two-semester course teaching introductory materials in general management, including marketing, financial management, production, and human resources in the first semester, and focusing on relevant topics in the context of international business in the second.

B0198 International Marketing (3/0) This course focuses on the international aspects of marketing. Topics include analysis of environment, analysis of competitions, strategies of pricing, product development, and promotion.

B0202 International Finance (2/2) This course focuses on the international aspects of the financial world. Topics include foreign exchange market, historical evaluations of international financial system, mechanics of hedging exchange rate risks, theory of balance of payments, theory of exchange rate determination, and open economy macroeconomics.

B0206 International Financial Management (3/3) This course gives an introduction to financial management and international aspects of financial management with special emphasis on risk hedging.

B0213 Laws on International Trade (3/0) This course offers an introduction to the making of trade laws in Taiwan, international customized rules of trade, and trade laws of major trading partners.

B0219 International Trade Theory and Policy (3/3) This course teaches basic concepts of comparative advantages, theory of tariffs and non-tariff trade obstacles, economic integrations, and recent developments in international economic environments.

B0221 International Trade Affairs (2/2) This course covers practical matters relevant to international trade, including materials concerning communication, pricing, contracting, shipping, commodity and exporting insurance, payments processes, and various laws and/or customized rules governing international trade.
B0263 Money and Banking (3/0) This course aims to introduce the entire modern monetary system in a systematic way. Traditional topics included are: the definition of money, the financial instruments, institutions, markets, various regulations, and the conducting of monetary policy. Special topics such as the risk management and e-finance in the global context are emphasized as well.

B0301 Introduction to Mathematical Economics (2/2) The purpose of the course is to motivate students of economics to study the mathematical skills by convincingly demonstrating their usefulness to deal with economic problems.

B0302 Economics (3/3) This is an introductory course, teaching basic knowledge of various areas in economics and a broad understanding of economic affairs.

B0373 Intermediate Macroeconomics (0/3) This course focuses on macroeconomic structure and interactive behavior among agents. Topics include basic structure of macroeconomics, expectations formation, effectiveness of government policy, and fundamental growth theory.

B0395 Business English (2/2) This course teaches techniques related to business letter writing. Topics include inquiries, replies and quotations, import and export procedure, sales contracts, orders, complaints and adjustments, and letters of credit in foreign trade.

B0408 Futures Studies in Economics (0/3) The purpose of this course is to demonstrate the basic concepts of future studies in Economics. Students will learn how to analyze the future trend of Economic environment.

B0455 Futures Market (0/3) This course outlines the definition of futures products and also the recent development in the futures markets and exchange. It further discusses the contract specifications, trading strategies, and pricing of several important financial products in the futures markets such as forward contracts, futures, options, and swap.

B0489 International Business Policy (3/0) This course provides an integration of materials taught in the courses of general management, marketing, financial management, and investment decision making in international business.

B0674 Management of Financial Risk (0/2) The main purpose of this course is to introduce the basic concept of risk management in financial market. Students will learn the meaning and structure of financial risk management. They can also study the basic calculation of Value at Risk.

B0693 Seminar on Marketing (0/3) This course uses a decision process perspective to examine the key concepts and issues involved in marketing field. Through case studies and class discussion, decision-making abilities will be developed logically.

B0779 Law of Tax (0/2) The purpose of this course is to introduce the basic principles and applications of Chinese tax law. Students will acquire insights of the tax system among different countries quickly.

B0807 Introduction of International Financial Instruments (2/0) This course will introduce the basic theory of investment and some international financial instruments, including stock, foreign exchange, mutual funds, futures contract and exchange traded funds (ETF).

B0838 The Economics of Money, Banking, and Financial Markets (0/3) This course will develop an integrative economic framework to organize students' thinking about financial markets and institutions so that students can have a better understanding of our financial system and learn to apply it to current developments.

B0841 Taiwan Investment in Mainland China (3/0) The main purpose of this course is to develop a Cross-strait economic competition paradigm which is one of the important issues for politicians and businessmen in Taiwan. How to adjust the investment and management strategies to gain vantage from the “competition-cooperation” model for Taiwan’s Corporations is a crucial and urgent mission. This course includes 3 parts: Theories and History of China's Economic Reform, Enterprises Case Study, Globalization and Cross-strait Economic Relations.
B0864 Market Survey and Marketing Decision Making (3/0) This course helps students to collect market data and adopt corrective statistic analysis to get market information. Students can realize how to make marketing decisions.

B0869 Introduction to International Financial Assets (0/2) This course focuses on three areas: evaluation of performance of international financial assets; the principles of choice of international financial assets; and the development of new tech trends: 3G & WLAN. Broadband, Nano-technology and digital home entertainment will also be covered.

B0917 Modern Managerial Economics (0/3) This course emphasizes four items: traditional managerial economics vs. modern managerial economics; the goals of pursuit of modern entrepreneur; the theory & empirical study of merger and takeover; and the theory of foreign direct investment.

B0918 Global Commercial Management (0/3) This course focuses on real-life cases, often growing out of the corporate employer’s context, which challenge students to analyze and resolve complex business problems using the business skills, frameworks and tools they have acquired. By the end of the course, teams are required to complete real-world projects.

B0926 Business Japanese (0/2) This course instructs students on “Commercial terms” most commonly used inside and outside the Japanese firms. Students will learn the forms and expressions of “keigo" (敬語), the most difficult part to master in the Japanese language.

B0927 International Business Communication in English (0/2) This course aims to build students’ confidence in expressing themselves correctly and fluently in English, and enable them to become effective communicators in their future business careers. It focuses on business communication needs in the workplace such as entertaining visitors, meetings and discussions, presenting facts and figures, and job interviews.

B0928 Issues in Managing Mainlander Workers (0/2) This course applies management theories to explore special attributes of Mainlander workers. Students will learn how to manage those workers who were born and grew up in a socialist system.

B0975 Investment: A Southeast Asian Perspective (0/3) This course introduces students to major issues of current concern to all investors. All of the materials will be presented in a framework that is organized by a central principle and are of fundamental principles such as the capital asset pricing model, the efficient markets hypothesis and so forth.

B0993 International Financial Markets (0/2) This course builds up for students fundamental knowledge about international financial markets. Specifically, the structure, current status and future trends of various international financial markets will be the focus. After taking this course, students will have a good foundation of international financing and be ready to engage in further study on other important international financial aspects.

B1033 Business English (0/3) The lecture on Business English covers nearly every aspect of business today, from relationships with customers and suppliers to employers and stockholders. Students gain a fundamental working knowledge of Business English.

M0086 Business Essentials (0/3) This course helps beginning business students to understand how business, government, and citizens together influence the ways that business is conducted in different societies and the environment in which business prospers.

M0090 Business Management (0/3) This course, with the aid of the textbook, will introduce students to the various activities that business people engage in, such as accounting, finance information technology, management, marketing, and operation. Upon completion of this course, students are expected to understand the role that these activities play in an organization and how they work together. Moreover, this course helps students decide what areas of business they want to study further.

M0142 Marketing Management (2/0) The course was designed to introduce the basic concepts, including "product, price, place, promotion, and planning" of international marketing
activities. Students might also learn and apply the basic concepts above with practical case studies from this course.

**M0339 Accounting (3/3)** This is an introductory course, teaching basic skills in bookkeeping and providing a broad understanding of financial statements.

**M0394 Managerial Accounting (0/3)** This course deals with the provisions and use of accounting information to managers within organizations and to provide them with the basis to make informed business decisions that will allow them to be better equipped in their management and control functions.

**M0463 Business Statistics (3/3)** The purpose of this course is to give students a conceptual introduction to the field of business statistics and its many applications; therefore, applications of data analysis and statistical methodology are an integral part of the course. That is, the emphasis of the course is on helping students understand the wide range of statistical applications in business and finance.

**M0517 Statistics (3/3)** This is an introductory statistics course, teaching basic concepts of statistics methods which include probabilistic model, statistical inferences, hypothesis testing, linear regression model, and analysis of variance.

**M1104 Supply Chain Management (3/0)** This course provides a comprehensive overview on supply management and global logistics. The course addresses global dimensions of supply chains, supply chain performance measurement and financial analysis, supply chain technology, transportation management, inventory decision making, warehousing decision, network design and facility location, procurement and operations. Cases selected from various industries are also introduced in class.

**M1419 Management and Supervision of Financial Institutions (0/2)** This course examines how financial markets work, such as those for bonds, and foreign exchange and financial institutions banks, insurance companies, mutual funds, and other institutions. Financial markets and institutions not only affect people’s everyday life but also involve huge flows of funds—trillions of dollars—throughout our economy, which in turn affect business profits, the production of goods and services, and even the economic well-being of countries.

**T2069 Futures Studies in the Issues Across the Strait (0/2)** This course explains the future of a set of issues across the Taiwan Strait. Students will learn how to apply theories and methodologies of futures studies to forecast whatever cross-strait phenomena they are interested in.

**Master's Program**

**A0942 Japanese Style Management (2/0)** This course provides opportunities for students to understand Japanese managerial behaviors from the perspectives of history, geography, culture and society. Emphasis is on the study of norm shaping and managerial applications.

**B0123 Global Supply Chain Management (0/3)** This course presents the basic concepts and principles of Global Supply Chain Management. Students will learn the dimensions of global supply chain management, including product and material flows, information flows, and financial flows.

**B0124 Applied Economics (0/3)** The primary objective of this course is to offer a graduate-level introduction to econometric theory and practice. More specifically, upon completion of this course, students will be able to comprehend most of the applied econometrics found in scholarly journals and initiate applied econometric analysis within their own research program.

**B0126 Globalization and International Economics (0/3)** Rather than focusing on the details of operation management, this course emphasizes the international trade and finance theories as a competitive strategy in international markets if given to the longer or strategic dimension of the senior executive's task.

**B0136 Consumer Behavior (0/3)** This course develops the conceptual model for realizing the behavior of consumers; students can list the internal and external factors that can explain and predict the consumer behavior.
B0190 Strategy on International Business Management (0/3) Instead of focusing on the details of functional management techniques, this course emphasizes, if given to the longer or strategic dimension of the senior executive's task, and uses international business management as a competitive strategy in international markets.

B0191 International Business Management (3/0) Topics of this course include review and impact of international business, scope of business internationalization, environmental constraints, regional issues, functional operations, strategic planning, human resources, social and ethical issues, marketing, production, and financial issues.

B0196 International Marketing Management (0/3) Topics of this course include international market environment, the effect of culture on marketing strategy, the segmentation of international markets and competitive analysis, marketing mix decision—product, price, place, promotion—and planning and control of international marketing activities.

B0202 International Finance (3/0) Topics of this course include foreign exchange market, international financial market, offshore banking system, international monetary system, concept of balance of payments, theory of balance of payments determination, theory of exchange rate determination, open economy macroeconomics, and current problems and issues in international finance.

B0203 Theory of International Finance (0/3) This course covers the dynamic theory of exchange rate determination, speculative attacks in foreign exchange regimes, target zones, and topics in exchange rate choices.

B0206 International Financial Management (0/3) Topics of this course include the multinational aspects of financial management, the balance of payments and international economic linkages, parity conditions in international finance and exchange rate forecasting, short-term financing, asset management, international portfolio investment, corporate strategy and foreign direct investment, capital budgeting for the multinational corporation, the cost of capital for foreign investment, and the measurement and management of political risks.

B0213 Laws of International Trade (3/0) Topics of this course include the World Trade Organization, the European Union, the North America Free Trade Agreement, international trade contract, international trade dispute and resolution, trading system in the U.S., international import relief program, international export control facilities, and laws on intellectual property protection and technology transfer.

B0219 International Trade Theory and Policy (0/3) This course covers the law of comparative advantage, the Heckscher-Ohlin model, alternative trade theory and empirical testing, growth and trade, the theory of tariff and non-tariff trade barriers, the theory and policy of economic integration, economic development, and international factor movements.

B0489 International Business Policy (1) (0/3) The business world of today is no longer limited by national boundaries and an organization needs to have a global perspective if they are to survive and prosper in this international environment. This course mainly uses real world business cases to develop students’ ability to deal with this dynamic environment.

B0516 International Business Investment Decisions (0/3) This course covers incentives and disincentives of international direct investment, industry concept, country concept, and area concept.

B0518 Marketing Planning and Strategy (3/0) Today's market is marked by the challenges of global competition, rapidly changing technology, new consumer needs, and shifting demographics; thus the development of marketing planning skills is essential if companies are to survive. This course tries to illustrate and enrich this complexity so that students will approach the subject with the sophistication it deserves.

B0519 Global Logistics Management (0/3) This course presents the basic concepts and principles of Global Logistics Management. Students will learn the dimensions of global logistics, including
customer service, procurement, inventory, warehousing decisions, transportation management, logistics relationships, logistics information systems, and logistics challenges for the future.

**B0591 International Investment (3/0)** This course focuses on international financial markets, from exchange risk to international portfolio diversification. Concepts and theories will be presented with a focus on their practical relevance.

**B0609 International Financial Instruments (3/0)** Topics of this course include: introduction of basic investment theory; advantage of international investment, how to compile stock price average and/or stock price index; and various kinds of financial instruments, for example, stock, foreign exchange, mutual fund futures and stock price index futures.

**B0625 Business Mergers and Acquisitions (0/3)** Topics of this course include historical evolutions on MandA, features and types of MandA, basic theory and evaluation, selecting financing method, and case studies especially dealing with anti-trust laws and various commercial laws.

**M0638 Applied Statistics for Business (0/3)** This course provides an applied perspective on business statistics and market survey. Using a problem-oriented approach, the course introduces the fundamental steps in business research projects, from problem definition to final report, and the methodology for evaluating the validity and reliability of the findings.

**B0726 Study in Mainland China's Business and Trade Management (0/2)** This course covers two important fields. One is to introduce the rise of China's economic and trade power, and the booming of the Chinese market. The other is to describe the characteristics of the successful international manager or entrepreneur, why and how companies expand internationally, and some of the economic, political-legal, and culture differences between countries. Finally, the barriers to investment, trade, and running business in China will also be illustrated.

**B0824 Enterprise in Global Economy (3/0)** This course emphasizes the global-environmental factors in an enterprise's decision-making process since those factors are crucial in the increasingly changing international market.

**B0836 The Regulations of the World Trade Organization (0/3)** This course will give a description of principles and practices in WTO laws as well as their possible influence in the economic sector.

**B0884 Seminar on International Business (I) (0/3)** This course deals with special problems of managing organizations with cross-border business transactions. The objectives of this course are to help students understand the drive and structure of Multinational Corporations and to learn how to address issues in the management of a global network.

**B0885 Seminar on International Business (II) (0/3)** This course develops advanced topics in the economic, political, and cultural environment of business as well as business policy and strategic planning for international business. In addition to issues in comparative industrial relations, topics also include the structure, function, and performance of multinational corporations.

**B0886 Behavior and Marketing Strategy (0/3)** This course examines cases and theories.

**B0911 Customer Behavior and Marketing Strategies (0/3)** This course tries to examine how corporations and public policymakers use consumer-behavior concepts in order to investigate buying habits and make managerial marketing decisions.

**B0920 Applied Statistics and Data Analysis (0/3)** This course is designed to help real statistics practitioners learn the mathematical principles of statistics together with the use of statistic software. Over-concentration on one topic area will be avoided, and instead breadth of coverage of a variety of statistics topics will be the goal. Therefore, the course will underline principles with an emphasis on their application for the functional areas of business, such as accounting, marketing, management, economics and finance.

**B0921 International Business Laws (0/3)** This course presents the basic concepts and principles of International business laws. Students will also learn the structure as well as the different types of
International business contracts.

**B0952 Risk Management and Insurance (0/3)** This course includes the following topics: Risk and Its Management; Risk Measurement and Risk Pooling; Economics and Insurance; Structure of Insurance Market and Insurance Operation; Financial Intermediaries and Integration; Personal Risk Management; Corporate Risk Management; Financial Risk Management.

**B0974 Global Competitive Strategies and Decision Making (0/3)** This course is designed to enhance students’ understanding of global economic environment as well as modern competitive analysis and their use in the decision-making process. It provides a semester-long opportunity for students to test their global visions, leadership, and strategic skills in the real world cases.

**B0975 Investment: A Southeast Asian Perspective (0/3)** This course introduces students to major issues of current concern to all investors. All of the materials will be presented in a framework that is organized by a central principle and are of fundamental principles such as the capital asset pricing model, the efficient markets hypothesis and so forth.

**B0976 Competitive Strategy (0/3)** This course is to provide the analytical model for making business decisions. It will begin with environmental analysis, corporation analysis, alternatives selection, and implement strategy to getting competitive advantages.

**B1010 International Investment and Competitive Strategy (0/3)** Rather than focusing on the details of investment management techniques, this course emphasizes the strategic dimensions of the senior executive's task and uses international investment management as a competitive strategy in international markets.

**B1011 Seminar on Marketing Strategy (0/3)** This course is specially designed for studying the famous articles in academic journals; through discussion and debating in this course, theoretical explanations can be developed.

**B1024 Mergers & Acquisition (0/3)** Mergers, takeovers, restructuring, and corporate control issues have become central public- and corporate-policy issues. Some powerful forces have been unleashed. Business enterprises find that they must adjust to massive changes in their environments and in the nature of competition as well as in their relations with suppliers, workers, consumers, and other stakeholders. The M&A subjects, therefore, take on even greater importance and will be discussed in this course.

**B1034 Strategic Market Management (3/0)** Strategic Market Management deals with marketing actions to be taken in the future of a company. Today, each company shares with all other companies the challenge of identifying and understanding the markets unfolding around it. This course focuses on marketing strategies from the viewpoint of the business.

**M0848 Managerial Economics (0/3)** This course provides economic foundations in management. Topics included are economic optimization, risk analysis, demand analysis, production and cost analysis, market structure analysis, and practice of product pricing.

**M0115 Multivariate Analysis (0/3)** Topics of this course include factor analysis, cluster analysis, ANOVA, MANOVA, ANCOVA, principal component analysis, discriminate analysis, regression analysis, conjoint analysis, AID, MDS, and path analysis.

**S0425 Quantitative Methods (0/3)** The course studies the theoretical concepts and applied techniques in statistics and operations research, aiming to develop competence in the interpretation and analysis of data and the development of quantitative models. Case studies may be used to illustrate and reinforce the applications of the various topics.

**T0086 Technology Management (0/3)** The purpose of this course is to help graduate students understand the basic concepts and issues in the management of technology. Many engineers and managers are charged by their organizations with anticipating technology needs of their companies and managing the integration of technology into the workplace. These days it is a critical skill for managers to make accurate appraisals of trends, costs, and how technologies will benefit the company and the
needs of the customer. The conceptual framework of the course is to introduce the methods of effective use of technology and commercialization in driving competitive outcomes for organizations.

T 8000 Thesis (4)
DEPARTMENT OF ECONOMICS

Degrees Offered: B.A., M.A.

Chair: Chuang, Shi-feng (莊希豐)

The Department

The Department of Economics began as a program offering classes in the University's evening division in 1980, and was established as a department in 1986. Currently, the department has 18 full-time professors, with approximately 720 undergraduate students. The department offers a four-year program leading to the Bachelor of Arts in Economics.

The department offers theoretical core courses including intermediate microeconomics and macroeconomics, as well as specialized courses in econometrics, money and banking, economic development, financial economics, and labor economics. Students are required to take a minimum of 109 credits of required courses, along with 30 elective credits, in order to graduate. From 2007 on, we have also provided a credit course program by designing a series of economics, finance and law related courses. Students can earn a certificate from school if they fulfill the requirements of this credit course program.

The department strongly emphasizes research and has a significant number of faculty members conducting projects funded by the National Science Foundation of the R.O.C. The department also holds conferences regularly dealing with the economic problems of Taiwan.

The M.A. program in Applied Economics was established in 2001. Its teaching objectives are to train students to acquire a professional knowledge of Applied Economics and a strong ability for further study and employment. Furthermore, we stimulate students’ enthusiasm and ability for advanced research. In 2004, the name of “The Graduate Institute of Applied Economics” was changed to “The Graduate Institute of Economics.”

Faculty

Professors
Chuang, Shi-feng (莊希豐); Liao, Huei-chu (廖惠珠); Chiang, Li-ly (江莉莉);
Lin, Shu-chin (林淑琴); Chen, Jhy-hwa (陳智華); Wan, Jer-yuh (萬哲鈺)

Associate Professors
Chen, Chao-liang (陳炤良); Chen, Yah-wei (陳亞為); Cheng, Tun-kung (鄭東光);
David Kleykamp (柯大衛); Lin, Chin-yuan (林金源) Yang, Biing-shiun (楊秉訓)

Assistant Professors
Chen, Yi-yi (陳怡宜); Lee, Chun-yuan(李鈞元); Lin, Yi-chen (林亦珍);
Ronald A. Edwards (艾德榮); Tsai, Ming-fang (蔡明芳); Lin, Yen-ling (林彥伶)

Degree Requirements

The Department of Economics offers one program at the undergraduate level (Bachelor of Business) and one program at the graduate level (Master's). The degree requirements for the programs are as follows:

1. Requirements for a Bachelor’s degree in Economics:
   Completion of 139 credits of courses, including 109 credits of required courses and 22 credits of elective economics courses.

2. Requirements for a Master's degree in Economics:
   Completion of 33 credits of courses, including 21 credits of required courses and 12 credits of elective economics courses offered in the department. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.
Course Descriptions

Undergraduate Courses

B0071 Investment (2/2) This course is mainly about investing in marketable securities. It focuses on the investment environment and process.

B0130 Microeconomics (3/3) This course offers an in-depth investigation of the theories of consumers and firms. Special topics in information economics, uncertainty, overlapping models, externalities, and basic game theory are also included.

B0202 International Finance (2/2) This course studies the theory of exchange rate determination and international monetary economics. The first semester emphasizes the exchange rate theory, while the second semester emphasizes the analysis monetary union and exchange rate policy.

B0218 International Trade Policies (2/2) International trade policies are a living discipline, changing and evolving in response to the development of the world's economies. This course is the study of international trade and finance, providing important implications for economic policies.

B0263 Money and Banking (3/3) This course studies the interest rate and foreign exchange rates in the financial market, financial institutions, money supply and demand, and the monetary policy. Students in this course need the basic concepts of economics.

B0268 Labor Economics (2/2) This course provides a blend of theoretical and applied research. The main topics include: labor supply, education and training, labor demand, theories and empirical evidence of unemployment, job reallocation, the effects of globalization and technological change on the labor market.

B0295 Economic Development (2/2) This course studies the basic elements of development and growth. The first semester emphasizes growth theories, while the second semester is devoted to applying these theories to the Taiwan economy.

B0301 Introduction to Mathematical Economics (2/2) This course presents an introduction to basic mathematical tools for major types of economic analysis such as static's, cooperative static, dynamics, and mathematical programming.

B0305 Principles of Economics (3/3) This course covers the following topics: Individual economy which includes the price and theory of supply and demand, analysis of acts of consumers, theories of production, structure of costs, structure of markets, and supply and demand of production factors. Collective economy is also covered which deals with national income, unemployment, inflation and economic growth.

B0373 Intermediate Macroeconomics (3/3) This course approaches the aggregate economics theory with an emphasis on recent developments.

B0547 Public Sector Economics (2/2) This course provides students with a solid grounding in theories and teaches students to understand how the public sector interacts with the rest of the economy, why governments act in the way they do, enabling them to evaluate policies and their alternatives.

B0668 The Economics of Uncertainty and Information (2/2) This course studies essential concepts in the economics of uncertainty and information. It deals with issues presented in the context of choice under uncertainty, including a discussion of expected utility theory, insurance market, portfolio analysis, principal-agent theory, and game theory.

B0727 Econometrics (2/2) Literally, econometrics means "economic measurement." It consists of the application of mathematical statistics to economic data to lend empirical support to the models constructed by mathematical economics and to obtain numerical results. It is concerned with the empirical determination of economic laws, which will be discussed in this course.

B0728 Economic Dynamics (0/3) This course focuses on economic dynamic models. Topics include
an introduction to dynamic models, integral calculus, economic applications of integrals, first-order differential equation, first-order difference equation, qualitative-graphic approach.

**B0776 Industrial Organization and Game Theory (2/2)** This is an introductory course on modern industrial organization. This course provides rich applications of game theory on a firm's behavior and industry analysis. It is topic oriented. Major topics include monopoly strategies, predatory strategy, collusive behavior, merger, vertical restraints, auctions, R&D, etc.

**B0817 The Application of Excel Financial Tools (2/0)** An overview of all the Excel Financial Tools is arranged for the first class meeting. Then each Excel Financial Tool is illustrated by four steps. First we explain the definition and its related mathematics inference. Then the operation process in Excel Financial Tool is taught. Finally, we point out the application in real world and its limitations.

**B0818 The Application of Excel Statistical Tools (0/2)** An overview of all the Excel Statistical Tools is arranged for the first class meeting. Then each Excel Statistical Tool is illustrated by four steps. First we explain the definition and its related mathematics inference. Then the operation process of each Excel Statistical Tool is taught. Finally, we point out the application in real world and its limitations.

**B0931 History of Taiwanese Economy (0/3)** This course explores the development process of Taiwan’s economy since the early 15th century. Discussion on Taiwan's policies and performance in the 1970's and 1980's is the last section of the course.

**B0934 Advanced Microeconomics (2/2)** This course is designed for students who have learned microeconomics and calculus. Hence, the purpose of this course is to discipline students to be capable of using mathematical models for analyzing consumer behaviors, firm behaviors, and market structures in depth.

**B0935 Advanced Macroeconomics (2/2)** This course is an introduction to the study of Macroeconomics at an advanced level. It presents the major theories concerning the central questions of macroeconomics. New Classical economic growth model and endogenous growth model are introduced to address the questions of why some countries are rich and others poor and why countries grow. Traditional Keynesian, new classical, real business cycle, and New Keynesian theories are intended to analyze the questions of what the sources of business fluctuations are, why there is unemployment, what the sources of inflation are, and how government policies affect output, unemployment, inflation, and growth. The goal is to provide both an overview of the field for students who will not continue in macroeconomics and a starting point for students who will continue with more and advanced courses and research in macroeconomics.

**B0936 Decision Analysis Applications (2/0)** This course focuses on decision models and its application. Topics include: decision criterions, decision trees; risk analysis, sensitivity analysis; utility and decision-making. Also introduced are basic Markov chains.

**B0937 Guide to Economic Essays and Readings (2/2)** This is a two-semester course conducted in English to familiarizes students with various classic topics in economics, with a particular emphasis on reading, writing, and understanding macroeconomics. The first semester considers the business cycle, money and the macroeconomy, interest rates, exchange rates, inflation, and economic growth. There are short worksheets that accompany the readings. The second semester considers issues surrounding consumption, investment, trade, and nominal wealth, again with worksheets accompanying the readings. The readings are simplified interpretations of the master works of Marshall, Keynes, Fisher, Friedman, Tobin, and Samuelson, etc. Discussion and exams are conducted in English.

**S0440 Linear Programming (0/2)** This course focuses on formulating linear programming problems. Topics include an introduction to linear programming, review of linear algebra, linear programming applications, sensitivity analysis and interpretation of solution.

**Master's Program**

**B0099 Applied Microeconomics (0/2)** This is a topic-oriented course covering advanced applications of microeconomics, in the spirits of game theoretical analyses. Most of these applications are relevant to the studies of industrial organization or financial economics.
**B0118 Applied Macroeconomics (0/2)** Following up on the lectures in the Macroeconomics Theory, this course continues to study some more applied subjects, such as open economy issues, economic growth issues, accompanied with paper readings. It requires a term project of empirical research related to macroeconomic policies.

**B0129 Microeconomic Theory (3/0)** This course focuses on the fundamental tools of microeconomics that will be helpful to all economists, such as utility maximization, labor supply, revealed preferences, profit and cost functions, uncertainty, and general equilibrium.

**B0262 Monetary Theory & Policy (0/3)** This course attempts to provide a coverage of the most important topics in monetary economics and of some of the models that economists have employed as they intend to understand the interactions between real and monetary factors. Topics include price determination, inflation, and the role of monetary policy.

**B0268 Labor Economics (0/2)** The aim of this course is to acquaint students with traditional topics in labor economics such as labor supply and demand theories, search models, human capital models, contracts, models of reallocation and cleansing, job creation and destruction.

**B0295 Economic Development (0/3)** Topics in this course include the evolution of the theories of development, measurements and causes of income inequality and poverty, the role of institution on development, etc.

**B0429 Economic Growth Theory (3/0)** The purpose of this course is to introduce the theory and empirical evidence of economic growth around the world. We will discuss the old and new research that shows many of the most important determinants of economic growth are clearly within the purview of economic policy.

**B0668 The Economics of Uncertainty and Information (3/0)** This course deals with basic topics of uncertainty and information. In-depth treatments include different approaches of studying economic behavior under uncertainty, consumer theory, producer theory, game theory, asymmetric information, signalling, and search theory. Especially, it focuses on the introduction of classic literature of wide applications.

**B0710 Macroeconomic Theory (3/0)** This course uses the market-clearing approach as a general method for analyzing macroeconomic problems. It starts from a simple Ramsey model before moving to discuss some important issues by adding money, capital to the model.

**B0890 Econometrics (I) (3/0)** This course introduces the basic tools for studying econometrics and the regression model in cross-sectional data.

**B0891 Mathematics for Economics (3/0)** This course studies the mathematics required to solve problems in Economic Analysis. Optimal control theory will then be introduced to solve dynamic optimization problems.

**B0892 Econometrics (II) (0/3)** This course emphasizes the econometric analysis in time-series and panel data.

**B0894 Applied Micro-Econometrics (0/3)** This course covers two main topics on applied microeconomics using a variety of econometric techniques to date as well as the non-parametric approach. One of them introduces how to measure the productivity and efficiency of a decision-making unit. The other addresses the estimation of various probability models, such as probit and logit models and multinomial logic models. On the basis of probability models, the Tobit and truncated regression models will also be discussed.

**B0924 Firms, Contracts, Financial Structure (2/0)** This course introduces the new developments in the theory of the firm. The major focus is on the effects of firms' ownership structures and on their financial structure and real decisions.

**B0932 Energy Policy and Management (3/0)** This course introduces some basic concepts (units,
NPV) and techniques in the energy economics, and then illustrates the main policies implemented popularly in the world, such as the Strategic Petroleum Reserve and the pursuit of 3Es (economy, efficiency, and environment).

B1173 The Economic Analysis of Social Issues (0/3) This course involves applications of current research, econometric methodology, and historical data to achieve clear and practical understanding of the economic aspects of important social issues, such as suicide, crime, abortion, immigration, global warming, de-industrialization, etc.

B1193 Introduction to Research Methodology and Seminar (0/1) The instructor gives lectures on basic research methodology for the first two weeks and then invites speakers with specialty to give lectures on various fields in economics. Besides the basic skills of writing a dissertation, students also gain knowledge by discussing with experts from the seminar.

B1203 Security Analysis (0/3) This course is designed to study the characteristics and analysis of individual securities, as well as the theory and practice of optimally combining securities into portfolios.
The Office for AACSB Accreditation

Chair: Lin, Ku-Jun (林谷峻)

The office was established in 2010 under the supervision of the Dean of School of Business and the Dean of School of Management.

The ultimate goal of this office is to promote both schools with international accreditations, such as AACSB (The Association to Advance Collegiate School of Business).

Through the accreditation process, our strategic management standards are carefully discussed and designed. After aggregating the resources of the university, then we make sure those resources are sufficient and will be allocated to the university stakeholders in an effective and efficient way. Finally, we promise to provide quality education to our students and will verify the results of student learning, and taking the results as bases for continuous improvement.

Currently we are in the PreAccreditation process and hope we will touch down in the near future.
COLLEGE OF MANAGEMENT
COLLEGE OF MANAGEMENT

Dean: Wang, Chu-ching (王居卿)

Brief History

The College of Management was established in 1980, when Tamkang College of Arts and Sciences was approved by the Ministry of Education to become Tamkang University (TKU). Three departments were included in the College at that time: Business Administration, Accounting, and Statistics. Since then, it has kept expanding into the largest College of Management in Taiwan with more than 6,300 students and 120 full-time faculty members. Currently, it has seven departments—Business Administration, Accounting, Statistics, Information Management, Transportation Management, Public Administration, and Management Sciences and Decision-Making—and an e-learning EMBA program.

The main objective of the College of Management is to cultivate well-trained and high quality young managerial talents both at the undergraduate and graduate levels for Taiwanese society, which has experienced more than 50 years of high economic growth and diversified industrial development. In the past 30 years, the College of Management has built up a good reputation through hard working alumni in different professions in society. The College of Management focuses on systematic approaches to educating students to equip themselves with competence in problem analysis and decision making, planning and programming, budgeting and control, organizing and leadership in the professions of marketing, production, human resources, finance, accounting, transportation, communication, information technology, government administration, and quantitative analysis. In addition, the College of Management also offers cross-department doctoral programs, English MBA programs, six EMBA programs, and several cross-department programs subsidized by the Ministry of Education. Furthermore, the College has an agreement with the University of Michigan at Flint for a co-master program. Students would be able to gain master degrees from both Universities when they complete their study. Furthermore, an EI and TSSCI indexed journal “International Journal of Information and Management Sciences” published by the College is an indication of its academic excellence.

The College of Management has been guided by the triple-objective in its course design and faculty recruitment: globalization, information-oriented education, and future-oriented education. It is very active in conducting joint academic conferences with TKU’s over 104 renowned sister universities around the world and short-term overseas study programs every year since 1995. The College has also devoted a great deal to establishing practice-oriented courses and public speech programs by inviting key business executives as speakers around the year; hence, students will gain valuable knowledge and experience beyond the textbook. Computer and Internet facilities are available to students for their homework and practice. An academic journal is issued by every department to encourage faculty members to publish their research results. Exchanging visits and seminar programs across the Taiwan Strait with colleges and universities in Mainland China every year is the College’s most special activity among the eleven colleges of Tamkang University.

Motto and Goals

To cultivate high-quality young talents in managerial professionalism, cultural depth and global views.

Future Development

The College of Management will continue working hard toward excellent professional management education in Taiwan through research, teaching, and service, a three-in-one strategy by the faculty. It will keep attracting outstanding new faculty members. The facilities and teaching equipment will be improved along with student–faculty quality enhancement. The international and cross-strait exchange programs are also a main direction for development in the future. To match the trends of globalization, we are setting up a new graduate program (English MBA), in which all courses will be given in English. It will provide more opportunities for students to communicate with international students, and help students develop a broad mind and a new vision of international
management. In the near future, the College of Management will help graduate students obtain two
degrees in an efficient way. We have signed an academic corporation agreement, offering the “dual
Master’s degree,” with the University of Michigan at Flint. Besides, we also offer a digital in-service
master’s program, the “E-Learning EMBA of Global Chinese Traders.” This online program provides
global Chinese business traders a good chance to get a Master’s degree. In addition, five Executive
MBA programs have been set up to help the vast number of Tamkang alumni and others who want to
obtain a master’s degree. In addition, four new Ph.D. programs for Business Administration,
Accounting, Information Management and Applied Statistics have been established to enhance the
quality and reputation of the College and the University as a whole.

Course Descriptions

Undergraduate Courses

B1186 Seminar on Theory of Business Management (2/0) About 12 CEOs will be invited to give a
lecture in this course respectively. Through their speeches, students who are registered in this course
will get much knowledge about the practice of business management from various industries and
different CEOs’ experiences. The speakers are from leading companies and various industries,
including finance & insurance, telecommunications, electronics, health care, and government sectors,
etc.

M1473 Management of Technology (3/0) This course focuses on management of innovation and
technology. The following are the main themes: Fundamentals, Strategizing and Industry Policy of a
Nation. In addition, this course includes cases studies & discussion in class.

M1498 Business Accounting and Financial Management (3/0) This course provides students with a
fundamental knowledge of financial statements and corporate finance. The topics of business
accounting include the introduction of balance sheet, income statement, statement of cash flow,
statement of stockholders' equity, and financial statement analysis. The topics of financial management
focus on the fundamentals of corporate finance, including risk, evaluation, capital structure, investment
and financial decisions.

M1499 Design of System on A Chip (3/0) This course offers an introduction of the system-on-a-chip.
It includes the fabrication, devices, and memory in the integrated circuits, and the design flow,
embedded software, and tools in the SOC. It also covers the trends in the development of IC industry
and the considerations on the VLSI testing.

M1500 System on A Chip (0/3) This course provides an overview of the technology for SoC, an
analysis of the market for SoC, as well as grouping for Special Projects

M1564 Analysis of Technological Industry (0/3) This course introduces eight theories in relation to
analysis of technological industry. In addition, six case studies are discussed in order to investigate how
technological industries were developed and their future. The objective of this course is to design a
general framework and methodology in understanding the essence of industrial development and
analyzing industrial performance.

M1566 Technology Laws Concerning SOC Industry (3/0) This course offers an introduction to the
technology laws applicable to the SOC industry. The goal is to offer students a basic and general
understanding of intellectual property rights and their legal protection under both Taiwan and
international regulatory frameworks. Topics that will be discussed in class include Patent Law,

M1567 System-on-Chip Marketing Management (3/0) Topics of the course include technology
commercialization, marketing, strategic marketing management, industry buyer behaviour & marketing
research, segmentation, targeting, and positioning strategy, product strategy, pricing strategy, sales and
distribution, market diversification. Group seminars are also required.

M1568 SoC Knowledge Management (0/3) This course first introduces the basic concepts of
Knowledge Management as well as applying methodologies that have been suggested by researchers.
After that, in the second stage, applications of KM strategies onto the SoC industry are discussed. The
students are given the chance to actually perform the operation of managing SoC documents and obtain a hand-on experience on accumulating SoC knowledge.

**M1741 Overview of Rapid Transit System Engineering (3/0)** This is an introduction of the Rapid Transit System. This course presents the basics of transportation systems, urban transit problems and solutions. Electrical/mechanical systems of mass rapid transit, automatic guided systems, medium capacity transit, planning, design, construction, operation and maintenance issues are discussed.

**M1742 Project Management of Public Construction Engineering (0/3)** This course introduces some subjects of public construction, project management, modern civil construction organization, schedule and cost of public works, management theory, man power utilization. Also, some case studies are discussed in class.

**T0086 Technology Management (2/0)** This innovative course probes into the issues of management related to technology mainly in content. It includes four major parts: the discussion of technology, possession and application of technology, prediction and plan of technology, evaluation of performance and ethics.

**M0898 Entrepreneurial Management (0/2)** This course attempts to bridge the old and new economies with a proven strategic and tactical formula for entrepreneurial success. This course offers quantitative and qualitative knowledge, concepts, approaches, strategies, tactics, and philosophy to increase the entrepreneur’s probability of success and reduce the risk of failure.

**M1969 Personal Income Tax Consulting and Service(0/1)** The course design aims through participation in personal income tax service and consulting processes to strengthen in students the actual ability of tax application, so that students could have expertise in consulting for personal income taxes. This class instructor hopes that through participation in the process of filing service, students can learn the correct and positive working attitudes. At the same time, through such a service-learning students could enhance their ability for interaction with others.

**Innovative Marketing of Transportation Service Industries (2/0)** The purpose of this course is to introduce innovative marketing of transportation service industries. In the first half-semester, major marketing topics of these industries are examined. Marketing innovation of transportation services are discussed through case studies. Besides introductions of innovative marketing know-how, this course also wants to empower your ability of self-marketing in the future career.

**Project Management (2/0)** This course introduces the development, scope and the management knowledge required for project management. When facing varying business management environments, students are expected to know how to establish a system of management methods to complete a specific goal, adopt a temporary organizations operating mechanism, the effective planning, organization, leadership, control, and limited resources conditions.

**Master's Program**

**E2751 Secure Electronic Commerce (0/3)** This course introduces advanced technologies for secure electronic commerce, digital money, and payment systems. It covers well-known protocols (SSL, TLS, WTLS, and SET), encryption algorithms, EDI, micropayment, and IC cards. Impacts of electronic commerce on the society will also be discussed.

**M0747 Strategic e-Management (0/3)** This course covers discussions on the development of organizational competitive advantages and their strategic implications.

**M1361 Brand Management (3/0)** This course deals with brands and explores why they are important, what they represent to consumers, what firms should do to manage them properly, and how to create and nurture a strong brand over time. Attendants will learn a comprehensive and up-to-date treatment of the subjects of brands---the design and implementation of marketing programs and activities to build, measure, and manage brand equity.

**M1628 Advanced Knowledge Management (0/3)** This course introduces approaches to knowledge management, key concepts in knowledge management, drivers of knowledge management, knowledge...
management technologies, knowledge management enablers, knowledge management roles and organizational structure, knowledge management lexicon, and knowledge management reasons of failure or success.

**M1702 Information Law (2/0)** This course focuses on the discussion concerning Information Acts & Regulations such as Copyright Law, Patent Law, Trademark Law, Law for the Prevention of Unfair Competition, Intellectual Property, Criminal Law, Personal Data in Data Protection Law, etc.

**M1718 Computer Forensic (2/0)** This course introduces the basic concept of computer forensic as well as the processes of digital investigation. This class focuses mainly on the forensic processes for the following areas:
1. Identify sources of documentary or other digital evidence.
2. Preserve the evidence.
3. Analyze the evidence.
4. Present the findings.
Most successful investigators possessing a nose for investigations and a skill for solving puzzles will then be introduced and discussed in the class.

**M1719 Practical Training of Information Security Equipments (0/2)** This is a practice course for information security technology. Students are required to install, set up, and configure security services from the Internet open sources. Topics include, but are not limited to, the following: traffic monitoring, DNS services, router, NAT server, firewalls, system logs and recovery, access control and authentication (IEEE 802.1x) and mail spam gateways, in order to understand how to do and what can be done regarding various information security issues.

**M1818 RFID Logistics and Supply Chain System-Application and Cases (3/0)** This course first introduces some basic concepts and principles of supply chain management, for example, demand management, production planning, transportation, global sourcing, supplier relationship management, supply chain inventory management, logistics and channel management, and coordination in the supply chain. Furthermore, we study the properties and advantages of RFID technologies. Finally, some real-world cases are provided to understand the application of RFID to achieve high performance supply chains.

**Ph.D. Program**

**M1104 Supply Chain Management (3/0)** This course introduces concepts and principles of supply chain management. Topics covered include demand management, production planning, transportation, sourcing, supplier relationship management, inventory management, logistic network planning, and coordination in the supply chain. Furthermore, real-world cases and academic articles are used to understand each of these issues and interdependency and integration of them.
DEPARTMENT OF BUSINESS ADMINISTRATION

Degrees Offered: B.B.A., M.B.A., EMBA, Ph.D.

Chair: Hung, Ying-cheng (洪英正)

The Department

The Department currently has four programs, including the bachelor program, the master’s program, the doctoral program, and the EMBA program, and is preparing to offer an English MBA program in the future, the English MBA program. For now the BBA requires at least 140 credit hours, and each student must have a grade-point average of at least 2.00 for each course. The bachelor program started in 1966, the master’s program in 2001, and the EMBA program in 2003. Meanwhile the Ph.D. program under the Graduate Institute of Management Science started from 2004. We are dedicated to cultivate management specialists and future industrial entrepreneurs. License oriented courses will be offered continuously.

The purpose of the bachelor program is to provide students with a broad background in general business and management, and to give them adequate preparation for pursuing graduate study, entering the job markets, including banking, management, marketing, human resources, sales, purchasing, information management and manufacturing in business and industry, and also working in government or nonprofit institutions.

Based on the undergraduate courses, many advanced and contemporary courses have been provided to graduate students, such as Organization Theory, Research Methodology, Strategic Management, Knowledge Management, Cross-cultural Management, Seminars in Business Functions, and Seminars in Industries.

A close relationship between the department and the business community generates a mutually beneficial understanding of the needs of business and development. Many educational facets including field trips, experiential learning, case studies, and contact with business executives as lecturers and mentors provide students opportunity to improve their skills for greater contributions to businesses where they are employed.

Faculty

There are 20 full-time faculty members in the Department, 19 of whom have a Ph.D. degree. In the future we will continuously strive to hire excellent faculty and to enhance our performance in teaching and research.

Professors
Liu, Tsann-liang (劉燦樑); Wang, Chu-ching (王居卿); Wu, Kun-shan (吳坤山);
Chang, Ya-Fung (張雅芳); Lee, Shih-chung (李世忠)

Associate Professors
Huang, Man-chin (黃曼琴); Hung, Ying-cheng (洪英正); Lee, Ya-ting (李雅婷);
Pan, Tsw-Wei(潘志偉); Lee, Yueh-hua (李月華); Lo, Hui-chiung (羅惠瓊); Pai, Di-ching (白漢清);
Shen, Chang-mao (沈景茂); Zhao, Mu-fen (趙慕芬); Lee, Ching-fen (李青芬); Yang, Li-Ren (楊立人);
Tsao, Hsin-Yuan(曹修源); Chih-ming Wang (王志銘); Huang, Ya-ping (黃雅萍);
Lee, Wu-Yen (李武炎); Chen, Yu-Hsiu (陳玉秀); Wang, Lih-hua(王麗華)

Assistant Professors
Ho, Giin-Tarng (何錦堂); Chang, Wei-Lun (張瑋倫); Wen, Hsing-yin (文馨瑩);
Wang, Mei-Ling (汪美伶); Lee, Yun-Huei (李芸蕙)

Lecturers
Huang, Wen-chih (黃文智); Lan, Yu-hua (藍毓華); Lin, Yung-chi (林永吉);
Degree Requirements

The Department of Business Administration right now offers four programs:

1. Requirements for a degree of Bachelor in Business Administration:
   Completion of 140 credits of courses, including 105 credits of required courses and 28 credits of elective management courses.

2. Requirements for a Master’s degree in Business Administration:
   Completion of 37 credits of courses, including 24 credits of required courses. Meanwhile there are 4 credits of thesis writing that are not included in graduated credits. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

3. Requirements for an Executive Master’s degree in Business Administration:
   Completion of 39 credits of courses, including 18 credits of required courses. Meanwhile there are 4 credits of thesis writing that are not included for graduated credits. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

4. Requirements for a degree in Ph.D. in Science:
   Completion of 36 credits of courses, including 5 credits of required courses and 6 credits of dissertation writing. Students are required to pass a qualifying examination within the first two years, publish at least one research paper in any journal listed in Science Citation Index, Social Science Citation Index and so on. They are also required to submit a written doctoral dissertation completed under the supervision of a faculty member and pass an oral examination.

Course Descriptions

Undergraduate Courses

A0582 Business English Conversation (0/2) The purpose of this course is to identify the characteristics of a speech and an oral presentation, explaining ways to organize a speech and an oral presentation, and analyzing techniques for handling audience questions.

A0764 Introduction to Advertising (0/3) This course introduces the functions, categorical consumer psychology, media and creative planning of advertising as well as the practical operation of Taiwan’s ad field.

A0942 Japanese Style Management (0/3) This course provides opportunities for students to understand the Japanese behavior from the perspectives of history, geography, culture and society. Emphasis is on the study of norm shaping and managerial applications.

B0065 Operation Management (3/0) The purpose of this course is to introduce Operations Management techniques in a variety of management contexts, including manufacturing and service industries. This course aims at providing the students an analytical approach to the economic problems of planning and controlling men, materials, and machines.

B0071 Investments (0/3) The aim of this course is to help the investor sort out the various investments that are available and to develop analytical skills which suggest what securities and assets might be most appropriate for a given portfolio.

B0136 Consumer Behavior (3/0) This course analyzes the nature of consumer behavior, dynamic and patterns, environmental influences, individual differences, psychological processes, consumer and decision processes and behavior, and consumer analysis and marketing strategy.

B0154 Financial Statement Analysis (0/2) This course provides analytical skills of evaluating and interpreting the current financial position of the firm and assessing its future trend. Courses include analysis of balance sheets, income statements, funds flow, and return on investment. Attention also is
given to integrate modern financial concepts such as efficient capital markets, and statistical projection of earning with the theory of financial statements analysis.

**B0173 Commercial Law (3/0)** This course studies company laws, check laws and related business laws.

**B0191 International Business Management (0/3)** This course presents a general overview of the international business scene, focusing particularly on the major environmental factors, the problems, and the prospects of managing multinational business operations.

**B0196 International Marketing Management (0/3)** This course includes the contemporary environment, problems, and practices. Students learn about the practical knowledge of global marketing strategy, Taiwan superiority business, product policy, exhibition, credit information, and CETDC operations.

**B0260 Organization Behavior (3/0)** This course analyzes current concepts of human behavior as applied to the organization. Topics cover anthropological, psychological, and sociological approaches in the identification and solution of the human aspects of business decisions. Class presentations focus on using OB concepts for developing and improving interpersonal skills.

**B0302 Economics (3/3)** This course discusses two main topics: A) microeconomics economy includes price and theory of supply and demand, analysis of acts consumers, theory of production, structure of cost, structure of market, and supply and demand of production factors; and B) macroeconomics as the study of national income, determining rules for equalization of income standard.

**B0400 Marketing Research (0/3)** Marketing research is the systematic and objective planning, gathering, recording and analyzing of information to enhance the decision making of marketing managers. It helps businesses to stay in close touch with consumers’ needs and wants and to make fine quality marketing decisions.

**B0416 Personal Finance (0/3)** This course helps students make better personal financial decisions, which means knowing how to spend and save money more wisely and to improve his or her standard of living. Fundamental personal finance topics as budgeting, credit, taxes, insurance and investing will be discussed.

**B0558 International Human Resource Management (0/2)** The course introduces the theories and practices to help students understand the current issues and trends of international human resource management (IHRM). The topics include international business management, cross-culture management, and international management.

**B0778 Business English Letters (3/0)** This course gives students a working knowledge of commercial writing and practice in modern contexts. It covers all aspects of transactions from addressing and laying out a letter to representative agencies, banking, insurance, shipping and delivery, complaints, non-payment of accounts, and so on.

**M0001 Retailing Management (3/0)** This course studies important activities from institutional, functional and strategic perspectives, including business activities involved in the sale of goods and services to consumers.

**M0003 Human Resource Management (0/3)** This course provides a comprehensive overview of HRM from an upper management perspective. Covered topics include strategic human resource planning, development of human resources, staffing for long-range, performance appraisal, compensation, and labor relation.

**M0015 Human Relations (0/3)** The purpose of this course is to show how you can become more effective in your work and personal life through knowledge of and skills in human relations.

**M0066 Production and Operation Management (3/0)** This course provides an analysis of production management concepts, tools, and practices as applied to production and service organizations. Topics include: Modern analytical methods, quality management, product and service design, process
selection and capacity planning, facilities layout, design of work systems, location planning, quality control, aggregate planning, inventory management, material requirements planning. JIT systems, scheduling, project management, and waiting lines are also included.

M0084 Business Diagnosis (0/3) This course is designed to help managers identify, resolve, and prevent business problems, covering every facet of the daily management of a business.

M0086 Introduction to Business (3/0) This is an introductory exploratory course designed for both business and non-business majors. From this course, students learn key concepts and disciplines of business and its environment, management and organization, people and production, marketing, finance, risk management, and multinational business.

M0094 Business Negotiation (0/3) This course covers three main units: (1) the analysis of business environments; (2) the strategy of negotiation and (3) the tactics of negotiation.

M0121 Service Management (0/3) This course provides a framework of service activities that integrate marketing, operations, and human behaviors as central to effective service management. In addition, the combination of text, short cases, and readings makes this course suitable for helping each student to become a good service manager.

M0136 Practice of Planning (0/3) Planning is the primacy of management; however, the experiences of practice are more important than the studies of theories in the planning process. This course will introduce the related knowledge of the planning process that can be applied to the individual and the organization.

M0142 Marketing Management (3/0) This is an analytical, managerially oriented course emphasizing decision-making in the functional area of marketing. Its contents includes analyzing marketing opportunities, researching and selecting target markets, developing marketing strategies, planning marketing programs and organizing, implementing and controlling marketing effort.

M0196 Small and Medium Size Enterprise Management (0/3) This course includes: an overview, thirty examples of mismanagement in small business, building public relations through media, effective management, perspectives on sales practices, and skills and tips for successful sales.

M0271 Financial Management (3/0) This course analyzes the underlying theory, principles and techniques used in financial management to maximize the value of the firm. Discounted cash flow analysis, risk and return measurement, capital budgeting, the cost of capital, capital structure theory and leverage policy, dividend policy, long-term financing policy, working capital management, financial statement analysis, mergers, holding companies, and multinational financial management will be discussed.

M0286 Project Management (0/3) This course introduces the fundamental concepts and elements of project management. The course also exposes students to various control aspects of project, such as requirement management, request for proposal, project proposal, scheduling, project-based organization, cost control, and resource management. Students are expected to gain the knowledge and skills in managing projects that are necessary for seeking employment opportunities.

M0339 Accounting I (3/3) This course focuses on the accounting concept, the accounting model, and the relationship of the financial statements. The course also discusses the accounting of single proprietorship, partnership, and corporation.

M0344 Data Processing (2/2) This course is designed to introduce concepts, software, and applications of Data Processing.

M0348 Management Information System (0/3) The course teaches students the emerging role of information systems in business. Included are people, organizations and management, information technology concepts, MIS in practice, building management information systems, and MIS management.
M0375 Management Psychology (0/3) This course is the first in a series of human-side courses that will introduce students to the principles of managing people. In this course, learners will learn basic organizational theories, group dynamics, motivation, leadership, individual differences and so on. All students need to be aware of how people behave, in order to be able to provide the best working environment. This course will teach students the basics of human organizational behavior, as well as to establish a framework for further managerial studies.

M0382 Management Science (0/3) This course provides quantitative methods of management scientist with application to economic, industrial and managerial problems. Topics cover linear algebra, mathematical programming, decision-making under risk, inventory control, queuing theory, game theory, and simulation.

M0394 Management Accounting (3/0) This course furnishes management with the necessary accounting tools for planning and control activities, improving quality and efficiency, and making both routine and strategic decisions.

M0395 Management Psychology (2/0) Management Psychology is an academic and applied discipline which involves the scientific study of human mental functions and behaviors in business and organization. Management Psychological knowledge is applied to various spheres of human activity including the development of self, individual difference, interpersonal interaction, wellbeing and stress, leadership, communication, career management, and the treatment of mental health problems and so on. Management Psychology incorporates research from the social sciences, natural sciences, and humanities.

M0405 Management (0/3) The course offers students not only theories that guide managerial activities but also illustrations and examples of how and when those theories do and do not work in both small and large businesses as well as in nonprofit organizations.

M0477 Quality Management (0/3) This course provides a fundamental, yet comprehensive, coverage of quality management concepts. Topics covered include quality-improvement techniques, control charts sampling plan systems, quality costs, and total quality management.

M0494 Training and Development (0/3) This course includes six parts: training and development functions, needs-assessment and evaluation, instructional design, training delivery job skills for trainer, and trends for the future.

M0495 Sales Promotion Marketing (0/3) Promotion management is one of the four Ps (marketing mix) that deal with integrated marketing communication (IMC), promotion tactics, advertising effect, and pricing management.

M0496 Service Marketing (0/2) This course focuses on the service sector to introduce the way to market services effectively. The contents of this course consist of the understanding of services, tools for service marketers, challenges for management, and formulation of strategies.

M0517 Statistics (3/3) This course teaches basic concepts of statistical methods including probabilistic model, statistical inferences, hypothesis testing, linear regression model, time series, analysis of variance, and so on.

M0583 Electronic Commerce (0/3) The objective of the course is two-fold: to provide a managerial overview of the technologies supporting and enabling electronic commerce; and to examine current strategies, issues, and trends in electronic commerce.

M0675 Current Issues in Management I II (2/2) This mini-course contains sessions, each of which is conducted by a well-experienced business executive in order to counterbalance the deficiencies in regular academic courses. Important issues will be discussed in simple daily language for students to comprehend in a short time span.

M0747 Strategic Management (3/0) This course teaches students the skills of dealing with complex problems confronting managers in a rapidly changing environment. Covered topics include strategic
management process, corporate level strategic decisions, business level strategic decisions, functional level strategic decisions, strategy implementation and control.

**M0800 Business Ethics (2/0)** This course introduces the ethical relationships between the business and the society, and helps students understand the multi ethical obligations of businesses toward stakeholders inclusive of employees, stockholders, competitors, community, and environment.

**M0853 Electronic Commerce (eBusiness & mBusiness) (3/0)** This course will cover the concepts, tools, and strategies for understanding and exploiting opportunities associated with eBusiness (m-Commerce). The focus will be on the application and marketing aspects of the business.

**M0898 Entrepreneurial Management (2/0)** This course helps students discover the proven and successful principles with the real-world experience of business and knowledge in two decades and then further analyzes the most advanced business model. The subjects involve how to find an alternative marketing model, thinking brainstorming, even how to make differentiation strategies of product or service, how to correctly price and to lock the market by contact strategies of customers, and how to build a long and profitable relationship. These issues and considerations will be discussed in class.

**M1081 International Marketing (0/3)** International Marketing presents an overview of the unique aspects of marketing in an international business environment and provides a framework upon which multinational marketing management decisions can be based. Emphasis is placed on the role of the international marketing manager in the development of marketing strategies for a variety of markets in diverse cultural, political, and economic circumstances. Focus will be on the decision-making process in the areas of foreign market analysis, target market identification, product planning, promotion, pricing and channels of distribution.

**M1103 Knowledge Management (0/3)** This course focuses on some key concepts such as: the Knowledge Cycle, the taxonomy of knowledge management strategies, etc. It will also examine knowledge management from the following perspectives: organization structure, management and technology.

**M1104 Supply Chain Management (0/3)** In this course, students will learn concepts related to the design, evaluation, and performance of supply chain systems, developed through an exploration of contemporary practice and research, focusing on current modeling approaches, analytical frameworks, and case studies.

**M1138 Chinese Traditional Military Thought and Management (3/0)** Many of yesterday’s stars such as Tontex and Sears have faded because (1) they did not adapt to what was happening around them; (2) they did not apply the accurate strategies to promote their core competency; (3) they might not obtain enough knowledge to realize what are goal strategies and tactics which could be applied to cope with the problems happening around them. Chinese traditional military thoughts have been established and successfully adopted to deal with various difficulties that have existed for thousands of years. More than ten types of Chinese military thoughts and their uses in real situations of management and organizational development will be introduced and discussed in this course.

**M1398 Labor Laws and Labor Relations (0/3)** The focus of the program is on the teaching of a variety of labor laws, through which students are to learn the knowledge about labor standards (employee & employer), collective bargaining (union & management), and skills of dealing with labor disputes.

**M1855 Chinese Market Management (3/0)** Topics include: The development for markets in China; the core competencies of Taiwanese businesses in China; the developmental & running strategies of Taiwanese businesses in China.

**M1856 Market Survey and Forecasting (0/3)** The purposes of this course are to foster students’ basic concepts and theories of market survey, and to develop students’ abilities including decision making and data analysis.
M1859 Seminar on Technology and Service Management (2/2) This seminar tries to incorporate theories and practical skills. And that would be an important thing for students in Dept. of Business Administration. In this subject we hope to help senior students get experiences and the recent development of the latest knowledge and practices in business by the speeches of managers in different businesses to have the best preparation for a future career.

M1868 Cost Analysis and Management (0/3) This course intends to enhance students’ ability in understanding and analyzing cost/expense in order to make the related managerial decisions.

M1930 Human Resource Training and Development (2/0) This course aims to help students understand how to connect with human resources development and strategic planning process in organizations. This course also provides the professional practical training related to the organizations.

M1931 Seminar in Management Information (2/0) Seminar in Management Information is a study on exploring information technology systems and the development of e-commerce. This course comprises: corporation network system framework, competitive advantages of information technology, introduction to communication and internet, general introduction to e-commerce. In addition to network management theories, practical examples as well as e-commerce related network management will also be presented in this course in order to assist students in building up their ability of information technology application.

M1957 Financial Practices (2/0) This course is aimed at helping students develop the understanding of the financial markets, and the practical understanding of various markets; to equip the students with the basic concepts for future investments and financial management.


S0325 Calculus (2/2) This course covers basic concepts of limits, differentiation and integration and integration of functions of one variable, infinite series, functions of several variables, partial derivatives, multiple integral.

Master’s Program

B0070 Investment Management (0/2) The purpose of this course is to introduce knowledge of investment, including the investment environment and financial instruments.

B0136 Consumer Behavior (2/0) This course aims to develop an understanding of consumer behavior from a variety of perspectives (multicultural, interdisciplinary, etc.), to develop an understanding of people’s consumption-related behaviors, and to develop and evaluate marketing strategies intended to influence those behaviors.

B0260 Organization Behavior (0/3) This course begins with an examination of critical personal characteristics of organizational members to see how these factors influence the effectiveness of organizations and their members. Special attention is then given to the issues of team, interpersonal processes, power, politics, and conflicts in organizations. Then leadership and communication behavior are examined and finally the organizational change and organizational culture are explored, too.

B0463 Organizations Theory (0/3) This course tries to make the students learn the management knowledge related to the organizational strategy, structure, function, external and internal environment, etc. This course aims to integrate the most recent thinking about the organization design with classical and traditional ideals and theories in a way that is interesting and enjoyable for students.

E1136 Research Methodology (0/3) This course is designed to provide students with an understanding of the theoretical and methodological principles in which business research is broadly based. Upon completion of the course, students will have the knowledge to enable them to propose and format a research project, and will have mastered basic data input and analysis on computers.
M0115 Multivariate Analysis (0/3) The purpose of this course is to prepare students to analyze real data from real research, and to understand these analyses at a conceptual level. Toward this end, we will focus more on concepts and computer analyses, and less on hand calculations and mathematics.

M0144 Seminar in Marketing Management (3/0) This course expects students to develop a high tolerance for ambiguity, a quality of all successful general managers. Students will learn that there are no right or wrong answers to marketing problems, just some that are better than others. Instead, students learn to approach complex and unstructured marketing problems in a creative and measured way.

M0272 SEM. IN Financial Management (0/3) This course includes an introduction to the financial environment, value and risk, capital budgeting, capital structure, and working capital management.

M0747 Strategic Management (0/3) Strategic Management is an integrated discipline, and it is also the major course for the MBA students. This course studies from top to down and macro to micro perspectives; that is, it will analyze the impact of external environments and internal capabilities, which will help the formulation of corporate and business strategies. Some contemporary issues will also be explored such as innovation, M&A, strategic alliance and integration strategies.

M0801 Human Resource Management (0/3) This course discusses typical functions in human resources management from a strategic perspective, such as recruitment, selection, performance appraisal, training, rewarding, and so on. Specifically, it explores how these functions integrate with the overall strategy of the firm in order for the firm to become more competitive.

M0990 Information Management Seminar (0/3) The rapid advancement of Information Technology (IT) has affected every bit of our life, both at home and at work. In the workplace, organizations have undergone fundamental change since computer was first introduced more than half a century ago. This course will offer a backdrop and the implications of the changes in IT application and management and the organizational methods for managing IT. The focus will be placed on how the current models for IT application and management are moving to new models for using IT for competitive advantage and for managing IT with the enterprise.

M1104 Supply Chain Management (0/2) In this course, students will learn concepts related to the design, evaluation, and performance of supply chain systems, developed through an exploration of contemporary practice and research, focusing on current modeling approaches, analytical frameworks, and case studies.

M1214 Chinese Small and Medium Enterprises (3/0) The development of recent Chinese society has been intensely influenced by the booming of small and medium enterprises during the past decades. This course analyzes various factors causing the positive or the negative development of small and medium enterprise in the future.

M1244 Seminar in Production and Operation Management (3/0) This course covers presentations and discussions of current topics in production and operation management fields.

M1245 Study of Multinational Management (0/2) To face the challenge in uncertain global economy is to learn and practice international management effectively. The purpose of this course is to make students learn how to manage and turn the increasing threats into opportunities. Some of the major topics which will be studied include global environments analysis, global competitive strategies, cross-culture management, risk management, global organization arrangement, and International HRM.

M1247 Qualitative Research (0/2) This subject helps students understand the fundamental nature of the scientific approach to problem solution. It will emphasize qualitative technical research in behavioral sciences, such as focus interview, participant observation, grounded theory.

M1301 High-Technology Industries (0/2) This course offers a review of various economic environments that are important in high-technology industries, such as sources of market uncertainty, sources of technological uncertainty, and sources of competitive volatility.
M1356 Services Management (2/0) Service management is fairly established as a field of study that embraces all service industries. This course is to study the service management from the perspectives of operations, strategy, and information technology. Some major contents include service quality, service strategy, service development, service location, service encounter, Internet service, service supply chain management, and service project management.

M1360 Seminar on Technology Management (3/0) This course is focused on management of innovation and technology. The following are the main themes: Fundamentals, Strategizing, Implementation and Globalization of Innovation Management. In addition, this course is structured along three themes: entrepreneurship and venture creation, knowledge management, multi-actor innovation.

M1361 Brand Management (2/0) This course is to provide a comprehensive and up-to-date treatment of the subjects of brands, brand equity, and strategic brand management. An important goal of the subject is to provide managers with concepts and techniques to improve the long-term profitability of their brand strategies.

M1362 Seminar on Business Organization and Management (0/3) To engage students in the world of organization, this course will explore the important related factors influencing the organization. The major contents in this course consist of environment analysis, intraorganization design (strategy, culture, life cycle, decision-making process, IT & control), and interorganizational relationships (alliance & cooperation).

M1363 Business Research Methods (0/3) Subjects that will be covered in the course include the “introduction to business research,” the “design of research,” and the “sources and collections of data.” In addition, reliability analysis and factor analysis will be presented to show how to develop an instrument and to test its reliability and validity. Online research methods will be discussed as well. The course in essence is a quantitative analysis course, even though the case study method will also be briefly discussed.

M1364 Management of Organizational Change and Crisis (0/3) Today’s organizations must poise themselves to innovate and change, not only to prosper but merely to survive in a world of rapidly increased crisis and competition. This course will explore how organizations change, how managers direct the innovation and change process, and how CEO copes with the crisis. The difference between incremental and radical change, the five types of change, and the management of successful change in all areas will be also clearly introduced and described.

M1365 Consumer Behavior Research (0/3) It provides insights into product, pricing, distribution, and promotion strategies by the views of information process, decision process and influencing factors for consumers.

M1366 Issues on Service Management (0/3) This course explores the dimensions of successful service firms. It prepares students for enlightened management and suggests creative entrepreneurial opportunities. The course is introduced with a general description of the emergence of the service society, and also a discussion of the characteristics of service activities within the traditional service sector as well as the public sector and manufacturing sector. The main part of the course then examines the various management tools and models, which have emerged within the area of services with stress upon marketing, quality management and organization.

M1429 Entrepreneurship and Innovation Management (0/2) This course provides an initial exposure to concepts central to the creation and management of new business ventures. The contents cover selecting winning opportunities, business-plan basics and introduction to venture capital and entrepreneurial finance. This course will also cover a comprehensive model to systematically identify opportunities for innovation. It covers the implementation of innovation processes including customer research, strategy analysis, competitive intelligence, value proposition development, business plan development, stage-gate product development processes, test marketing, launch and roll out. Finally, the course includes a capstone project that pulls together the entire innovation process into a practical exercise.
M1445 Management Theory and Organization Change (3/0) This course offers an introduction to the theories and practice of management, and is a basic requirement for all Business Administration majors. This course is a realistic overview of management through the study of the evolution of management thoughts, the identification of current issues and problems, and the examination of future trends. Students will learn critical thinking/problem solving skills associated with high performance in organizations. And this course also addresses the managerial challenge of strategy implementation, particularly by examining the organizational elements that must be drawn into line to support a redesign strategy, as well as the immense difficulties of changing an organization. Through lectures, reading assignments, class presentations, and videos, current management techniques are studied.

M1467 Managing High-Tech Industries (0/3) This course is designed to provide students with a basic understanding of the fundamentals of technology management. The course is intended for students who need some technical knowledge of managing high-tech industries, as well as for those students who wish to learn the process of technological innovation.

M1496 Multinational Management (0/3) To face the challenge in uncertain global economy is to learn and practice international management effectively. The purpose of this course will make students learn how to manage and turn the increasing threats into opportunities. Some of the major topics to be studied include global environment analysis, global competitive strategies, cross-culture management, risk management, global organization arrangement, and International HRM.
DEPARTMENT OF ACCOUNTING

Degrees Offered: B.A., M.A., EMBA

Chair: Chen, Jui-chih (陳叡智)

The Department

The day school of the Department of Accounting was inaugurated in 1973 and the evening school in 1975. The Department aims mainly to train students to be accounting specialists both in theory and practice. The scholarship each year amounts to NT$700,000, awarded to students with special achievements in six categories: academic achievement, financial need, service, morality, and major courses.

The MA and EMBA programs of the Department were established in 1994 and 2000 respectively. Their objectives and directions are as follows: (1) to cultivate senior accounting specialists, emphasizing the combination of theory and practice; (2) to study the accounting system of Mainland China as a social requirement in facing the communication across the straits; and (3) to train international accounting specialists for national needs in foreign investment policy.

The Department provides research and development funds to encourage students to attend conferences, present research papers, go abroad for short periods of research, also to invite outstanding scholars and specialists, and to improve the facilities of the Department.

Faculty

Professors
Yen, Sin-hui (顏信輝); Chang, Yue-cune(張玉坤); Chen, Hsin-chi(陳杏枝)

Associate Professors
Chang, Bao-guang (張寶光); Chen, Jui-chih (陳叡智); Hong, Sheue-ching (洪雪卿);
Huang, Cheng-li (黃振豐); Huang, Teng-man (黃廷滿); Kuo, Lo-pin (郭樂平);
Lin, Ku-jun (林谷峻); Wang, Li-shia (王麗霞); Yeh, Chin-chen (葉金成); Han, Kuei-hsiang(韓貴香)

Assistant Professors
Chen, Wei-ju (陳薇如); Hsieh, Yi-hua (謝宜樺); Hsu, Chih-shun (徐志順); Kung, Fan-hua (孔繁華);
Wang, Chen-Chin (王貞靜); Han, Hsin-Wen(韓貞文); Chang, Yu-Shan(張瑀珊);
Fang, Yu-Hui(方郁惠)

Lecturers
Hung, Hsin-hui (洪欣慧); Yang, Chuan-li (楊傳立)

Degree Requirements

The Department of Accounting offers two programs at undergraduate level and two programs at postgraduate level.

1. Requirements for a B.A. degree in Accounting:
   Completion of 138 credits of courses, including 100 credits of required courses and 20 credits of elective accounting courses.

2. Requirements for a B.A. degree in Accounting (Advance education):
   Completion of 138 credits of courses, including 100 credits of required courses and 20 credits of elective accounting courses.

3. Requirements for an M.A. degree in Accounting:
   Completion of 42 credits of courses, including 6 credits of required courses. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

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4. Requirements for an EMBA degree in Accounting:
   Completion of 34 credits of courses, including 9 credits of required courses. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

**Course Descriptions**

**Undergraduate Program**

**B0013 Company Law (2/0)** This course offers an introduction to company laws, check laws and marine laws.

**B0033 Essential of Civil Law (2/2)** This course expects students to have full understanding of our rights and obligations. The Civil Code will be abundantly discussed since it regulates people's daily life.

**B0071 Investments (0/3)** The objective of this course is to provide students with a basic understanding of modern investment theory and practice.

**B0146 Public Finance (0/3)** This course is designed to study the economics of government--how public choices are made, basics of taxation and spending of government. The course discusses theoretical aspects of expenditure and economics of budget, and also looks into the tools of tax analysis including tax equity, tax incidence, different taxes, economic affects of taxes, and tax-structure and its reforms.

**B0154 Financial Statement Analysis (0/3)** This course intends to enhance the ability of students in the analysis and use of financial statement. Since the financial statement is an important communication tool between investors and firms, the knowledge of this course is important for students in their future careers.

**M0204 Government Accounting (0/3)** The first semester is devoted to the introduction of finance, public revenue, and introduction to taxation; the second semester deals with taxation particulars, public bonds, financial policy, and financial administration.

**M0271 Financial Management (3/0)** This course is designed to help students succeed in learning the fundamentals of financial management through detailed applications and illustrations of important topics of text materials. The topics include value, risk, financing, debt and payout policy, and financial planning.

**M0321 Accounting II (4/4/2)** This “Intermediate Accounting” discusses in depth the traditional financial accounting topics as well as recent development in accounting valuation and reporting practices promulgated by some leading professional accounting organizations and applied by practitioners in industry and public accounting.

**M0335 Accounting Information Systems (3/0)** This course enhances a basic knowledge of computer-based information systems and their role in handling accounting function in contemporary business environment according to business cycle.

**M0339 Accounting I (4/4)** This course focuses on the accounting concept, the accounting model, and the relationship of the financial statements; furthermore, the course discusses the accounting of single proprietorship, partnership, and corporation.

**M0341 Accounting III (2/3)** This “Advanced Accounting” course is designed for financial accounting students beyond the intermediate level. The course covers business combinations, the equity and cost methods of accounting for investment in common stock, consolidated financial statements, and accounting for derivatives and foreign currency transactions and translations.

**M1148 Cost and Management Accounting (4/4)** This course discusses how the cost is determined under different manufacturing settings and how to use the cost data for planning, controlling and decision-making. Many advanced management theories, concepts, methods and techniques are covered in the course.
Master's Program

**B0560 Theory of Advanced Accounting (3/0)** This course provides a frame of reference for advanced accounting theories. It emphasizes information asymmetry problems, market reactions from accounting, and standard settings. Further, the course compares current value-based accounting and historical cost-based accounting. Finally, it describes accounting information to decision usefulness.

**B0565 Advanced Management Accounting (3/0)** This course provides an understanding of basic concepts about management accounting and how to apply quantitative, financial and human instruments to solve planning, control and decision making problems in business.

**B1028 Seminar on Financial Accounting Research (0/3)** The main objective of this course is to expose master-level accounting students to ongoing and emerging financial accounting issues, and to acquaint them with various research methodologies used in empirical financial accounting research.

**B1028 Seminar in Financial Accounting Research (3/0)** This course aims to develop students’ understanding and appreciation of the current state of empirical accounting research and theories that provide the bases for these research studies, and the link between accounting theory development and empirical research.

**E1136 Research Methodology (3/0)** This course introduces the basic theory and concepts of business research, the design of research, the sources and collection of data, and analysis and presentation of data. Discussion and interaction are emphasized in the course.

**M0781 Advanced Financial Management (0/3)** This course emphasizes theories and related empirical studies of modern financial issues. The aim is to enable MBA students to analyze related real world issues with analytical approaches, providing solid foundation for writing a Master's thesis.

**M0878 Seminar (1/1)** A research workshop will be held and accounting-oriented researchers will be invited to present their papers or to share their own research experiences. Hopefully, students are inspired through participation or extensive discussions.

**M1068 Behavioural Accounting (0/3)** This course provides a useful synthesis of the literature to facilitate broad coverage of the behavioral domain and to hopefully motivate students to pursue career studies in behavioral accounting research.

**M1158 Positive Accounting Research (0/3)** This course aims at reviewing and discussing the Positive Theory in Accounting and its methodology. The theory was formulated by Watts and Zimmerman [1986]. Since mid 80s, the theory has been providing one of the most dominant frameworks for accounting research, especially contract-based empirical studies on accounting behavior. This course emphasizes empirical methods of the following topics: accounting earnings and stock prices, the contracting Process, compensation plans debt contracts, political process, and empirical tests of accounting choice.

**M1313 Econometrics (0/3)** The objective of this course is to familiarize students with econometric analysis of cross-sectional data. The contents focus on linear regression analysis and related issues. This course is designed to help the future research of students.

**M1699 Seminar in Derivatives (0/3)** The main objective of this course is to expose students to ongoing and emerging derivatives issues, to acquaint them with various important concepts, and to discuss in depth about particular topics or recent development of current derivatives market.
DEPARTMENT OF STATISTICS

Degrees Offered: B.A., M.B.A.

Chair: Wen, Bor-shyh (溫博仕)

The Department

The forerunner of the Department of Statistics was the Statistics Section in the Department of Accounting and Statistics founded in 1963. The Department of Statistics was organized as an independent department in 1973. The master's program was established in 1997. Since 1963, over 7,000 Bachelor's degrees and Master's degrees have been granted.

The Department offers broad undergraduate and graduate programs to meet the diverse needs of students at different levels. Both programs give students sufficient flexibility to pursue their special interest and time to take courses in other departments. At the undergraduate level, there are several introductory courses which lead to many more advanced courses that are designed to provide students with understanding of the concepts of statistical inference and familiarity with the methods of applied statistical analysis. The Department's master program stresses a balance between statistical theories and practical applications, preparing students for careers in industry, business, government, medical research, and academia. Both undergraduate and graduate programs cultivate students' abilities to do data analysis of real world problems in diverse areas.

The Department mainly emphasizes the practice of sample survey, marketing analysis, industrial engineering, biological sciences, and many other areas. To accomplish the Triple-Objective of the University and multimedia-aided instruction, all faculty members are encouraged to make multimedia-aided teaching materials for the required courses. By combining the interest and expertise of the faculty with the campus information network, we encourage faculty and graduate students to engage in cooperative research with people in other areas. To adjust to the age of the knowledge economy, promote competitive capability, meet the demands of industry, offer opportunities for in-service people, and train students to be statistical specialists both in theory and practice, the Department, in collaboration with the Graduate Institute of Management Sciences, offers a Ph.D. degree in Management Sciences with emphasis on Statistics.

Faculty

Professors
Chang, Chun-tao (張春桃); Lin, Jyh-jiuan (林志娟); Lin, Kuang-nan (林光男);
Tsai, Tzong-ru (蔡宗儒); Wu, Chin-chuan (吳錦全); Wu, Shu-fei (吳淑妃);
Wu, Shuo-jye (吳碩傑)

Associate Professors
Chen, Ching-hsiang (陳景祥); Chen, Yi-ju (陳怡如); Deng, Wen-shuenn (鄧文舜);
Lee, Hsiu-mei (李秀美); Wen, Bor-shyh (溫博仕)

Assistant Professors
Chen, Li-ching (陳麗菁); Chen, Man-hua (陳蔓樺);
Chen, Yi-ju (Vivian) (陳怡如); Li, Pai-ling (李百靈)

Lecturers
Wang, Wen-yen (王文嚴); Yang, Wen (楊文)

Degree Requirements

The Department of Statistics offers both undergraduate and graduate programs.

1. Requirements for a degree of B.A. in Statistics:
   Completion of 139 credits of courses, including 102 credits of required courses and 20 credits of elective statistics courses.
2. Requirements for a degree of M.B.A. in Statistics:
A master's degree requires a minimum of 36 graduate credits including 9 credits of required courses, 4 credits of Topics in Applied Statistics and 4 credits of Seminar. At least 30 credits must be completed within the Department. Students are required to complete a thesis under the supervision of a faculty member of the Department, submit a thesis, and pass an oral examination.

Course Descriptions

Undergraduate Courses

**B0106 Actuarial Analysis (0/3)** This course covers the theory of interest, concepts of certain annuities, measurement of mortality and life table, life annuities, life insurance, net annual premium, net level premium reserves, pricing for casualty insurance, statistical base, overall average pure premium and/or loss ratio, construction of loading and gross premium, risk classification, and ration plan.

**B0109 Insurance (3/0)** Topics include: what insurance is all about: risk management and insurance, insurance and the law, insurance contracts policy analysis, limitation of amount of recovery, and loss-adjustment provisions.

**B0263 Money and Banking (2/2)** This course deals with the nature and functions of money and finance, commercial banking, central banking, monetary theory, and international monetary relations.

**B0302 Economics (3/3)** This course discusses two main topics: individual economy includes price and theory of supply and demand, analysis of acts consumers, theory of production, structure of cost, structure of market, and supply and demand of production factors; and collective economy as the study of national income, determining rules for equalization of income standard.

**B0456 Security Investment Analysis (0/2)** This course focuses on equities analysis of investment. Students can learn how to invest securities in stock markets. Moreover, the course emphasizes reasonable prices of companies, including fundamental analysis, technical analysis, when and how to buy and sell by investors, and how to set up investment framework of top-to-down.


**M0115 Multivariate Analysis (0/3)** This course covers a review of matrix theory, univariate and multivariate normal distributions. Inference about multivariate means includes Hotelling’s T squared. Inference about covariance structure includes principal components, factor analysis, and canonical correlation. Classification techniques include discriminant and cluster analysis.

**M0153 Operations Research (0/3)** This course includes basic techniques for modeling and optimizing deterministic systems and stochastic models with emphasis on linear programming, integer programming, queuing theory, and inventory. Applications to production, logistics, and service systems are also covered.

**M0184 Applied Computer Programmings in Statistics (2/2)** This course discusses a basic and concise introduction of the programming language R and introduces some programming skills with the language regarding statistics in data manipulation, calculation and graphical display.

**M0191 Survey Sampling (3/0)** This course offers an introduction to the design of sample surveys and the analysis of survey data, the course emphasizes practical applications of survey methodology. Topics include sources of errors in surveys, questionnaire construction, simple random, stratified, systematic and cluster sampling.

**M0202 Quality Control (2/2)** This course offers an introduction to statistically based quality improvement methods useful in industrial settings, inspection data for quality control, sampling plans for acceptance inspection, and charts for process control.
M0203 Case Studies in Government Statistics (2/2) This course covers an introduction to the organization and major responsibilities of Government Statistics Affairs, and focuses on the training of case studies. This course also emphasizes the needs of sitting for Civil Service Examination.

M0264 Time Series (0/3) This course covers autocorrelation and elements of spectral analysis, autoregressive and moving average models, identification and fitting, forecasting, and seasonal adjustment.

M0339 Accounting I (3/3) This course focuses on the accounting concept, the accounting model, and the financial statements. The course also discusses the accounting of single proprietorship, partnership, and corporation.

M0344 Data Processing (2/2) This course aims to introduce students to use computers to administrate, process and manage mass and complex data.

M0364 Computer Applications in Statistics (2/2) This course covers organization and application of computers and statistical packages to data processing. Other topics also include data handling in terms of coding, preparation, acquisition, file organization and retrieval, screening and reduction, summarization and tabulation, statistical analysis, and survey of available packages and applications.

M0404 Management Mathematics (3/3) This course introduces several mathematical models and methods for various real world situations that may be encountered in the applications of management sciences. Emphasis of the course is on its applications.

M0405 Management (3/0) The course offers students not only theoretical frameworks that guide managerial activities but also illustrations and examples of how and when those theories do and do not work in both small and large businesses as well as in nonprofit organizations.

M0481 Categorical Data Analysis (3/0) This course covers methods of analyzing multidimensional contingency tables with an emphasis on practical applications. Topics cover the use of computing packages for analysis of such data, model selection, testing goodness of fit, and estimation of parameters.

M0517 Statistics (3/3) This course covers graphical and numerical descriptive measures, probability, random variables, expectations and variances, sampling distributions, central limit theorem, confidence intervals, hypothesis testing, chi-square tests, analysis of variance, regression analysis and nonparametric statistics.

M1043 Survival Data Analysis (0/3) This course provides an overview of survival data analysis, including introduction of the lifetime variable, censored data, parametric and nonparametric inference.

M1190 Special Topic in Applied Statistics (3/0) This course helps students to build up the ability to propose a project, collect the related data and make decisions.

M1302 Special Topics in Statistical Application and Exploration (0/2) This lecture course is to provide an overview of the field for students who will continue to study cases in applied statistics.

M1601 Seminar on Statistics (2/2) This course includes special topics in probability theory and mathematical statistics designed to meet the needs and interests of individual students.

M1744 Applied Statistical Methods (2/2) This long-distance learning course targets at the audience who want to solve daily-life problems efficiently with software EXCEL. Statistical techniques of converting data into information are introduced through dynamic and graphic presentations. Statistical background is helpful but not necessarily required in this course.

M1831 Investment Theory and Market of Security (3/0) This course focuses on investing equities in stock markets, fixed-income, mutual funds, options and futures. Theories and their applications, and a connection between the course and getting finance certificates will be introduced in class.

S0061 Reliability Analysis (3/0) This course covers an analysis of failure data, estimates of hazard rates and failure time distributions for the reliability of components and/or systems. Additional topics
may be included at the discretion of the instructor, if time permits.

**S0075 Biostatistics (2/2)** This course provides a comprehensive introduction of basic statistical approaches and focuses on biomedical applications. Students can learn how to deal with biomedical problems via statistical methods through analyzing real examples.

**S0191 Regression Analysis (3/0)** This course is an introduction to regression with emphasis on practical applications, including simple linear regression and multiple linear regression models, inference about model parameters and predictions, diagnostic and remedial measures about the model, independent variable selection, and multicolinearity.

**S0210 Advanced Calculus (2/2)** This course covers fundamental notions of limits, continuity, differentiation, and integration, for functions of one or more variables, convergence of infinite series, and improper integrals. Prerequisite: Calculus.

**S0295 Nonparametric Statistics (3/0)** This course is an introduction to nonparametric statistics, including one or two sample testing and estimation methods, one or two way layout models, sign test, signed rank tests, rank tests, Mann Whitney Wilcoxon procedures, Kolmogorov Smirnov tests, and discussion and comparison with parametric methods.

**S0325 Calculus (3/3)** This course covers limits, differentiation and integration of functions of one variable, infinite series, functions of several variables, partial derivatives, and multiple integral.

**S0408 Design of Experiments (0/3)** This course offers an introduction to the basic principles of experimental design. Topics include an analysis of variance for experiments with a single factor, randomized blocks and Latin square designs, multiple comparison of treatment means, factorial and fractional factorial designs, and nested designs.

**S0439 Linear Algebra (2/2)** Topics of this course include: matrix algebra, linear systems of equations, vector spaces, subspaces, linear dependence, rank of matrices, determinants, linear transformations, eigenvalues and eigenvectors, diagonalization, inner products and orthogonal vectors.

**S0440 Linear Programming (3/0)** This course is an introduction to techniques for modeling and optimizing deterministic systems, computer solution of optimization problems, applications to production, logistics, and service systems.

**S0450 Introduction to Probability Theory (3/3)** This course offers an introduction to the theory of probability, conditional probability, independence, Bayes rule, random variables and their distributions, and moment generating functions. Multivariate probability distributions, covariance, distributions of functions of random variables, sampling distributions, limiting theorems and order statistics are covered. Prerequisite: Calculus.

**S0582 Mathematical Statistics (3/3)** Topics of this course include: sufficiency, completeness, unbiased estimation, maximum likelihood estimation, Bayes estimation, confidence intervals, tests of hypotheses, Neyman-Pearson fundamental lemma, uniformly most powerful and likelihood ratio tests. Prerequisite: Introduction to Probability Theory.

### Master's Program

**B0106 Casualty Property Actuarial Analysis (3/0)** This course covers the theory of interest, concepts of certain annuities, measurement of mortality and life table, life annuities, life insurance, net annual premium, net level premium reserves, pricing for casualty insurance, statistical base, overall average pure premium and/or loss ratio, construction of loading and gross premium, risk classification, and ration plan.

**B0486 Seminar on Financial Management (3/0)** This course provides a comprehensive description of value-at-risk, a new benchmark to measure financial market risks. Recent VaR estimation methods' development is stressed mainly in this course.

**M0189 Sampling Theory (0/3)** This course covers concepts of sampling survey, major sampling
designs and its estimation procedures, and evaluation of precision of a sampling design.

**M0303 Statistical Theory (3/3)** The purpose of this course is to build theoretical statistics from the first principles of probability theory, logical development, proofs, ideas, themes, etc., evolving through statistical arguments.

**M0481 Categorical Data Analysis (0/3)** This course is concerned with statistical methods for describing and analyzing categorical data. The main topics are the basic concepts of categorical data, chi-square test, loglinear model, and logistic model.

**M1014 Statistical Quality Control (0/3)** The purpose in learning statistical quality control is to give students a strategy for effective use of statistics in the area of process control. Moreover, a paper study is conducted in this course.

**M1043 Survival Data Analysis (3/0)** This course provides an overview of survival data analysis, including an introduction of the lifetime variable, censored data, parametric and nonparametric inference. Some advanced topics in biomedical applications will be also discussed.

**M2003 Applied Decision Analysis (3/0)** The objective of this course is to build up the foundation of making decisions. The scope of the course will include problem definition and structuring, common decision structures, identifying and comparing the decision methods.

**S0408 Design of Experiments (3/0)** This course is concerned with the learning of the design and analysis of experiment in engineering applications. The statistical software package Minitab is used to conduct the data analyses of examples in the textbook so that students can follow the techniques of DOE easily.

**S0594 Nonparametric Regression (0/3)** Nonparametric regression is a smoothing method for recovering the unknown regression function from noisy data, without pre-specifying the functional form of the regression function. The kernel smoothing (or local polynomials) method, which is very simple and useful among other several nonparametric alternatives, will be introduced in greater detail.

**T0102 Seminar (2/2)** This course provides discussions in the methods and theories of statistics and studies in some reputable statistical papers.

**Ph.D. Program**

**S0594 Nonparametric Regression (0/3)** Nonparametric regression is a smoothing method for recovering the unknown regression function from noisy data, without pre-specifying the functional form of the regression function. The kernel smoothing (or local polynomials) method, which is very simple and useful among other several nonparametric alternatives, will be introduced in greater detail.
DEPARTMENT OF INFORMATION MANAGEMENT

Degrees Offered: B.B.A., M.B.A., EMBA, Ph.D.

Chair: Jou, Chi-chang (周清江)

The Department

Established in 1985, the Information Management Department is one of the earliest departments of this field in Taiwan. In 1992, the Department set up its Master's program to provide advanced courses in both computer technology and management theory. In 2004, the Department set up a Ph.D. program. In 2006, the EMBA program started. Currently, the Department has 20 full-time faculty members, 14 adjunct faculty members, and more than 880 undergraduates and graduate students.

The Department provides a superior educational environment with modern computer resources, high-level teaching facilities and field project opportunities. There are five laboratories in the Department, containing 198 workstations and 35 servers equipped with Windows Server 2003, FreeBSD, Windows XP, Microsoft Office, MIS tools, DBMS systems, MSDN AA, and some multimedia software. The laboratories not only provide some popular application packages such as Enterprise Resource Planning (ERP), Customer Relationship Management Systems (CRM), and Electronic Commerce (EC) middleware for faculties and students to implement their systems, but also offer some communication equipment like servers, routers, hubs and switches for experimentation. In addition, the department has built a security operation center (SOC) in the information security laboratory.

Practice by students as IT professionals at local firms and non-profit organizations is the key feature of the Department. In the System Implementation course, students working in teams take on an actual information system assigned by an employee or a manager in a company. The team works with their company clients to collect information, perform analysis, evaluate alternatives, and design a system. The team presents the results as a written report and orally at a meeting with the clients as well as the advisors. The field project requires students to apply knowledge from many courses in information management and business in a consistent, integrated framework.

Faculty

Professors
Hou, Young-chang (侯永昌); Hwang, Ming-dar (黃明達); Shyur, Huan-jyh (徐煥智);
Cheng, Chi-bin (鄭啟斌)

Associate Professors
Chang, Jau-shien (張昭憲); Hsieh, Shun-chin (謝順金); Lee, Hung-chang (李鴻璋);
Liang, En-hui (梁恩輝); Liang, Te-chao (梁德昭); Liaw, Heh-tyan (廖賀田);
Liou, Andy Ay-hwa (劉艾華); Shaw, Reuy-shiang (蕭瑞祥); Wu, Jiin-po (吳錦波);
Yang, Ming-yu (楊明玉); Jou, Chi-chang (周清江);
Yu, Chia-ping (游佳萍)

Assistant Professors
Wei, Shih-chieh (魏世杰); Chang, Ying-Hua (張應華); Shih, Sheng-Pao (施盛寶);
Wu, Ya-Ling(吳雅玲)

Degree Requirements

1. Requirements for a degree of Bachelor in Information Management:
   Completion of 140 credits of courses, including 98 credits of required courses and 42 credits of elective courses.

2. Requirements for a Master's degree in Information Management:
   Completion of 32 credits of courses, including 8 credits of required courses. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass two (one internal and one external) oral examinations.
3. Requirements for a Ph.D. degree in Information Management:
Completion of 36 credits of courses, including 2 credits of required courses. Students are required to publish at least two research papers in international academic journals and domestic academic journals, submit a written doctoral dissertation completed under the supervision of a faculty member, and pass two oral examinations.

4. Requirements for a Master's degree of EMBA in Information Management:
The EMBA program in Information Management requires a minimum of 43 credit hours of coursework including 4 credits hours of thesis writing.

Course Descriptions

Undergraduate Courses

B0302 Economics (3/0) This course covers two major topics: 1) individual economy, i.e., price and theory of supply and demand, analysis of acts, consumers, structure of cost, etc; 2) collective economy, i.e., the study of national income, determining rules for equalization of income standard.

E1034 Introduction to Computers (2/2) This course gives an introduction to the basic concept and knowledge about computer science. Topics include machine architecture, Algorithm, programming languages and data organization.

M0064 Production Management (3/0) This course provides an analytical approach to manufacturing and service organizations. Topics include plant location and layout, inventory management, production and project planning and control, industrial culture, MRP, and quality control.

M0171 System Analysis and Design (2/2) This course provides an overall concept and procedures of developing information systems. Topics include system development life cycle, and the accompanying analysis/design tools and a systematic approach to systems planning during system development.

M0175 Operating Systems (2/0) This course studies important operations within any operating system. Topics include virtual memory, job scheduling, multi-tasking, multi-threads, and distributed computing. This course also covers several modern operating systems, such as Windows NT, Windows 98, and Linux.

M0271 Financial Management (0/2) This course analyzes the underlying theories, principles and techniques used in financial management to maximize the value of a firm. Topics include cash flow analysis, risk and return measurement, capital budgeting, cost of capital, long-term financing policy, working capital management, etc.

M0339 Accounting (2/2) This course focuses on the accounting concept, the accounting model, and the relationship of the finance statements. Also, the course discusses the accounting of single proprietorship, partnership, and corporation.

M0342 Database Management (2/2) This course focuses on the development and theory basis of database management systems. Topics include relational database operations and implementation, query language introduction (SQL), database normalization, deadlock handling, security and integrity problems.

M0404 Management Mathematics (0/3) This course discusses some important mathematics in the field of management. Topics include operation research, data analyzing, predicting methods, etc.

M0405 Management (3/0) This course provides students a comprehensive, systematic and relevant introduction to the field of management. Students will learn theoretical frameworks that guide managerial activities and illustrations and examples of how and when those theories do and do not work in both small and large business as well as in nonprofit organizations.

M0488 Network Construction (0/2) This course discusses the implementation of network in an exploratory way. Some practical experiences in the construction of a network are, thus, learned and
discussed.

**M0490 Networking and Telecommunications (2/0)** This course studies telecommunications and computer networks, including data communications, computer interfaces, transmission media and error detection. Some combined Tele-networking demands and trends in the business are also discussed.

**M0517 Statistics (0/3)** This course provides a strong mathematics background in statistics, and basic techniques for summarizing, analyzing, and interpreting large sets of data.

**M0591 System Implementation (1/1/2)** This course expects students to learn special IS implementations. Basic topics are translations of a logical design with structure analysis (e.g. data flow diagrams, data dictionary and algorithm descriptions) into physical system design.

**M0803 Information Law (2/0)** This course introduces a prerequisite concept about law; moreover, it covers laws governing various forms of intellectual property, personal data protection, crimes using the WWW, EDI, or computer network.

**M0977 Operating System Application (0/2)** This course introduces a physical OS shell implementation. Students are required to design some simple OS shells in Windows NT, Windows 98, Linux.

**M1325 Object Oriented Techniques (2/2)** This course is an advanced object-oriented programming course, which adopts Java as the implementation language. The contents of this course include inheritance, polymorphism, exception handling, multi-threading, I/O Stream and basic GUI.

**M1326 Programming and Data Structures (3/3)** This course focuses on object-oriented programming in the first semester. The purpose of this course is to equip students with well-trained programming skills by using C++ or Java. The second semester is to introduce data structure concepts and their implementations, in which the programming skills obtained from the first semester are heavily used.

**M1897 Business Software Applications (2/2)** This course is designed to introduce the concepts, software, and applications of data processing.

**S0325 Calculus (3/0)** This course is designed to provide students a solid foundation for the study of calculus, e.g. analytic geometry, differential and integral calculus of a single variable.

**Master's Program**

**E1234 Data Analysis: Method & Application (2/0)** This course discusses data analysis methods including the data type, regression model, analysis of variance, categorical model and running a SAS program using an empirical survey data.

**E2826 Introduction to Information Security (2/0)** This course is designed for students interested in information security and related technology. It provides an overview of various security threats and the related means to help in establishing countermeasures. We will cover the formal procedures that need to be instituted for proper management. Ethical and legal aspects related to management of Information security are also to be addressed. It aims to be a one-semester introductory course at the graduate-level or senior undergraduate level.

**E2827 Software Project Management (2/0)** This course encompasses the knowledge and techniques necessary to manage the development of software products. Within this context, topics such as software project planning, software estimation, software configuration management, software quality assurance, extreme programming, and development team organization will be discussed.

**H0021 Qualitative Research (0/2)** This course provides researchers with another aspect to observe the practices on computer-mediated communication via the Internet, the World Wide Web, and wireless technologies. Students are encouraged to review the relevant research method and philosophy.
M0829 Software Technology (2/0) This course discusses the applications of the Java language and platform. The subjects range from programming basics to GUI, Networking, Database, JavaBeans and complex commercial applications.

M0842 Hot Issues of Information Management (2/0) This course focuses on the critical issues in IS management including IT infrastructure, business process redesign, effectiveness of software development, managing database and communication network, and is planning.

M1216 Web Mining (3/0) This course deals with the techniques for extraction of desired information from unstructured documents. Topics will include information retrieval models, clustering and classification, and social network analysis. Students are encouraged to study recent advances on related topics and use provided programs to prototype a search engine for Chinese document sets.

M1348 Information Security Management (2/0) Introduction to symmetric and asymmetric cryptosystem. RSA public key infrastructure. Encryption/Decryption vs. Digital Signature/Verification. ISMS with ISO 27001.

M1368 Information Retrieval (2/0) This course introduces basics of information retrieval and search engines. It investigates the issues of relevance feedback, probability theory, language models regarding information retrieval. It studies various applications of machine learning methods in information retrieval.

M1432 Information Security Management Practices (0/2) This course covers the ISMS related speech from top managers of famous enterprises. Students will visit the ISMS related companies, and have training of ISO 27001 to get the certificate.

M1577 Algorithms for Spatial Data (2/0) Spatial data is a kind of special data. It includes raster data and vector data. In this class, we will introduce its special features and discuss its applications and functions, such as overlay, buffering, distance calculation, topology and so on.

M1647 The Theory and Design of Measurement (2/0) This course introduces the concept of scale, through a sample survey to collect sample data, the final data analysis and inference.

M1648 Soft Computing (0/3) This course provides students with a basic theory of soft computing, including fuzzy logic, neural networks, and evolutionary algorithms. The applications of soft computing to many different fields are introduced as well.

M1774 Data Collection and Paper Writing (0/2) This course describes the various types of data collection methods and reviews the library electronic databases to claim basic concepts and to help gather information needed for research. It involves the use of concepts and judgments to prove and refute the other means of logical thinking, analysis, clarifying the principle of the theory to carry out written academic papers.

M1849 Academic Writing in Discipline (0/1) This course focuses on the structure and style of academic English writing. The students will learn how to produce a clear and structured essay. The students will also be asked to discover the main journals of his/her professional area and learn how to write his/her articles following the style of the journal. It is expected that the students will gain enough understanding in how to improve his/her academic writing after finishing this course.

M1912 Special Topic on Information System Research (0/2) This course focuses on the reading and discussion of research papers, which are selected from prestigious information systems journals such as MIS Quaterly, and Information Systems Research. Some of the selected readings will emphasize the review of an IS specific topic, and others will cover the advanced research methodological issues. The course prepares graduate students to be able to conduct excellent research and publish high-quality research papers.

M1963 Risk Management on Information Systems (0/2) This course will first discuss the definition of information risk, followed by risk assessment, then, from the management viewpoint to discuss how to control as well as to transfer risks.
M1984 Practices of Project Management (1/1) This course trains students in managing the development of a practical project. Each student leads a group of undergraduate students to implement the software system in the course of System Implementation.

M1985 Group Decision Making (2/0) Group decision making (GDM) is a decision-making process which involves multiple persons. GDM is common in every day's life, such as voting, conference, negotiation, survey, brain storming, and alternatives selection. This class will introduce various GDM practices, as well as theoretical GDM models, including multi-level programming, game theory, auctions and combinatorial auctions, and social networks.

M1986 Information Technology Governance (2/0) This course introduces the practical and research issues of IT Governance, such as the relationships among IT Governance, Corporate Governance, and Information Security Governance; IT Governance and IT Management; standards and tools of IT Governance-ISO/IEC 38500:2008 and CobiT; the studies of implementation model of IT Governance; the studies of impact factors of implementation of IT Governance, etc.

M1988 Semantic Web and Services (2/0) This course will introduce the semantic Web, which is a revolutionary new framework for creating intelligent applications that automate the reasoning and decision process. The concept of semantic web can be applied onto the Web Services for more advanced applications. Students are expected to understand the concept and building blocks of semantic web and web services as well as discuss the current trend and development of the topic.

T0081 Research Methodology (2/0) This course discusses research fundamental issues containing research terminology, research procedures, and general research approaches for information systems researchers. This course prepares graduate students to be able to read research reports in the IS field and enables them to conduct IS research.

EMBA Program

M0722 The Applications of Information Technology (3/0) This course focuses on the practices and applications of new information technology to the business, including RFID (Radio Frequency Identification), GPS (Global Positioning System)/GIS (Geographic Information Systems), Web 2.0, Data Warehouse & Data Mining.

M0842 Special Topics in Information Systems (3/0) This course focuses on information systems’ current issues, mostly by reading good research review papers. It will emphasize what research is to be done for a specific article and how to do a good research on a selected topic. The aim is to help graduate students develop their research skills and conduct quality research.

M1453 Information Security Management Projects (0/3) This course will discuss the strategies and policies of US, Taiwan, and organizations.

M1604 The Plan And Management In Large Scale Project (3/0) This course will share the experience of some real cases in planning and managing for large scale projects. We will take some industry projects to be real case studies, and discuss the complete procedure and experience for those projects. We hope the students not only can learn the skills of planning and managing on large scale projects, but also can catch know how to fulfill an industry project.

M1641 Strategies and Policies of Information Technology Management (3/0) This course will discuss the national strategies and policies of US and Taiwan cyberspace security.

M1648 Soft Computing (0/3) This course provides students with the basic theory of soft computing, including fuzzy logic, neural networks, and evolutionary algorithms. The applications of soft computing to many different fields are introduced as well.

M1991 Research Methods for Information Management (3/0) This course describes the various types of data collection methods and reviews the library electronic databases to claim the basic concept, to help gather information needed for research and the use of concepts and judgments, and to prove and refute the other means of logical thinking, analysis, clarifying the principle of the theory to carry out written academic papers.
T0081 Research Methodology (0/2) This course discusses fundamental research issues containing research terminology, research procedures, and general research approaches for information systems researchers. It will prepare graduate students to be able to read research reports in the IS field and enable them to conduct IS research.

T1030 Papers Study (0/3) The course provides students with the capability of reading and analyzing academic research papers. Through the process of paper survey and presentation, it will provide students with information on theories widely used in information systems (IS) and research methodologies used in IS.

Ph.D. Program

M1563 Special Topics in Information Management (0/3) This course focuses on student presentations related to their research, faculty presentations, and occasional outside speakers. Its goal is to enable students to identify their research areas for the dissertation, and to obtain constructive feedback on their papers and research in progress.

M1992 Issues on Network Security (3/0) This course focuses on the new issues of Network Security. Trying, via discussion, new approaches to those issues can be developed and used as the research direction for PhD students.

M1993 Computer Algebra (3/0) Computer Algebra systems are gaining more and more importance in all areas of science and engineering. This course gives a thorough introduction to the algorithmic basis of the mathematical engine in computer algebra systems.

T1030 Papers Study (0/3) The course trains students in reading and analyzing academic research papers. Through the process of paper survey and presentation, it will provide students with information on theories widely used in information systems (IS) and research methodologies used in IS.
DEPARTMENT OF TRANSPORTATION MANAGEMENT

Degrees Offered: B.A., M.S.

Chair: Liu, Shih-Sien (劉士仙)

The Department

Established in 1986, the Department of Transportation Management aims to help students to develop their expertise in diverse transportation fields, including highway, railway, waterway, aviation, and urban transportation, in order to fulfill the needs of human resources for national economic development. Furthermore, to enhance the quality of advanced research and decision making in transportation and related industries, the graduate program not only focuses on the theories of transportation science but also emphasizes problem solving, and has recruited qualified candidates since 1995. Courses offered for junior class emphasize fundamental disciplines of transportation and the management science, whereas senior class focuses on the theoretical aspects of transportation courses, as well as interdisciplinary technologies and practicalities. In addition, three special programs of intelligent transport systems (ITS), logistics, and environment science are flexibly embedded in course design for students to choose for their future career.

Faculty

Professors
Chen, Dun-ji (陳敦基), Yau, Jong-dar (姚忠達)

Associate Professors
Chang, Sheng-hsiung (張勝雄); Chen, Wan-Hui (陳婉惠); Chen Wan-Hui (陳婉蕙); Fan, Chun-hai (范俊海); Liu, Shih-Sien (劉士仙); Luo, Shiaw-shyan (羅孝賢); Mi, Fu-kuo (米復國); Shing, Chi-lyang (辛其亮); Tao, Chi-chung (陶治中); Tong, Chee-chung (董啟崇)

Assistant Professors
Hsu, Chao-che (許超澤); Wen, Yuh-horng (溫裕弘)

Degree Requirements

1. Requirements for a Bachelor of Science degree:
The Bachelor of Science degree is awarded after completion of 136 credits, with 95 credits of required courses and 20 credits of transportation related courses.

2. Requirements for a Master of Science degree:
The Master of Science degree is awarded after completion of 33 credits. Students are also required to write a thesis with the approval of the committee after the oral examination.

Course Descriptions

Undergraduate Courses

B0319 Transportation Economics (2/2) Transportation Economics is the discipline concerned with the economic aspects of transportation problems, and involves the systematic analysis of transportation systems. Topics of this course include transportation demand and supply, transportation cost and pricing, regulation and subsidy policies, imperfect market and competition, and transportation project evaluation.

B0320 Transportation (2/2) This course introduces the basic elements and operations of transportation systems, including highway, railway, domestic waterway, and air transportation system.
E0543 Urban and Regional Planning (3/0) This course aims to apply multi-media methods to demonstrate key issues regarding city and regional planning. A series of planning concepts will be first introduced and then contemporary urban development issues will be discussed.

E0665 Transportation Engineering (2/2) Topics of this course include transportation system planning mainly on engineering aspects, including subsystems, such as highway, urban mass transit, airway, railway, waterway, and pipeline transportation.

E0724 Programming Language-C or C++ (2/0) This course covers flow chart, basic operators, print format, control statements array and date file, subroutine, and a case study of a transportation problem.

E1028 Computer Application in Transportation (3/0) This course focuses on the statistical applications to transportation, addressing SAS programming and problem solving with sampling and advanced theory of statistics.

M0153 Operations Research (3/3) Topics of this course include linear programming, network analysis, transportation problems, PERT, CMP, inventory, decision analysis, Markov chain, queuing theory, game theory, simulation.

M0356 Transportation System Analysis (0/3) Topics of this course include: challenges of transportation system analysis, demand of transportation, aggregate prediction of behaviour, transportation system performance, equilibration, evaluation, dimensions of consumer choice and travel-market equilibration in network.

M0360 Transportation Planning (3/0) Topics of this course include urban transportation planning, transportation in an urban setting, transportation planning decision making, data management and diagnosis, an introduction to analysis and evaluation, urban activity system analysis, demand analysis, supply analysis, transportation system and project evaluation, program and project implementation.

M0404 Management Mathematics (2/2) Management Mathematics (Linear Algebra) is fundamental to a large part of modern mathematics in the management science field. This course focuses on a basic introduction to the concepts and techniques of linear algebra and some of its signification applications to management decision science.

M0431 Logistic Management (0/3) This course covers physical distribution systems, logistic system, transportation, facility and inventory decision in logistics.

M0523 Law and Administration of Communication (3/0) This course familiarizes students with the legislative operations, principles of administrative law, administrative organization, administrative procedures, etc. It also applies the basic knowledge of administrative laws to transportation laws.

M0572 Traffic Control Design (3/0) The purpose of this course is to introduce the theory and methodology of traffic control design. In the first half-semester, we focus on theory and the design methodology of intersection. In the second half-semester we shall discuss the traffic control of freeway, and we will apply the traffic control design software to do the case study.

M0593 Applied Statistics in Transportation (2/2) This course covers methods of statistics applied in transportation and traffic.

M0671 Transportation Environment Impact Evaluation (0/3) This course covers pan-spectrum of transportation affairs, including global trend of transportation development, hot issues of city planning, traffic impact analysis, noise control and regulation, visual impact analysis, culture impact analysis, and habitat based analysis with field survey.

M0692 Transportation Safety (0/3) This course covers accident analysis, accident prevention measures, related design issues, related traffic control issues, human factors.

M1173 Commercial Vehicle Operation (3/0) This course offers an introduction of basic structure and management theory of commercial vehicle operation and transportation regulation. A series of cases studies will be presented in class to provide insights of the industrial characteristics, topics and policies.
for each type of commercial vehicle.

**M1748 Travel Behaviour Science (3/0)** The purpose of this course is to introduce the theory and practice of transportation behaviour. In the first half semester, psychology and behaviour science are examined. In the second half-semester related transportation behaviour problems are discussed and their linkages with current issues are also explored.

**M1834 Transportation Marketing Management and Public Relations (3/0)** The purpose of this course is to introduce the theory and practice of marketing and public relationship management in the field of transportation. In the first half-semester, marketing management and public relations are examined. In the second half-semester marketing management and public relations problems are discussed and their linkages with current issue are also explored.

**M1925 Practices on Supply Chain (3/0)** This course comprises three parts: Part 1: transportation management; information management and service of customer in logistic; out sorting logistic, strategy and performance of logistics, and inverse logistics. Part 2: demand forecast, inventory management, distribution management, and strategy and performance in supply chains. Part 3: the cases of RFID applied in shipping, vehicle transportation and air transportation.

**V0011 Tourism Management and Operations (2/0)** This course aims to introduce and analyze the relative development category and practices of the tourism and travel system. There are two parts in the course: Part1: the basic concepts on the tourism system, tourism demand analysis, tourism supply analysis, operation of travel agency, management of hotel, and recreation planning. Part2: the operation and practices in the travel agency, the international hotel, the theme park, the international tourism marketing, and the travel marketing of airline.

**Master's Program**

**E1188 Transportation Network Analysis (3/0)** Topics of this course include: the basic flow problems, maximum flow, out-of-kilter algorithm, traffic assignment, network design, and vehicle routing problem.

**M0181 Systems Simulation (0/3)** Topics of this course include: framework and development, discrete simulation, random number generation, generation of random variable, stability analysis, application in traffic flow and network analysis.

**M0447 Geographic Information System in Transportation (0/3)** This course covers GIS and its applications to transportation.

**M0668 Airport Planning and Design (0/3)** This course covers basic concept of air traffic control and airport planning issues, including air traffic forecasting, airport configuration, analysis of capacity and delay as well as topics related to environmental and economic assessment.

**M0873 Transportation System Analysis (I) (3/0)** This course will introduce systematic system analysis and its application to the transportation system. A framework of transportation analysis will be illustrated along with all related model components. Theories and specifications of disaggregate demand modelling will be discussed, including those of specification and estimate issues.

**M0874 Systems Analysis in Transportation II (3/0)** This course covers topics for transportation assignment, including basic assignment models and related variants as well as more advanced dynamic and stochastic assignment issues.

**M0924 Transportation Research Methods (I) (3/0)** This course covers scientific research, steps of research, selection of research topics, preparation of research proposal, design and structure of research, data collection and analysis, thesis writing, system analysis approach.

**M0925 Transportation Research Methods (II) (0/2)** This course aims to introduce the comprehensive and systematic research approaches for transportation research field. Many special issues and specific methodologies are discussed, including transportation demand models, system analysis, econometrics, and the state of the art methods.
M1079 Operations and Management of Urban Transit (0/3) Topics of this course include transit operations and service, transit system analysis, transit lines and networks, scheduling, transit fare, financing, regulation, and marketing.

M1107 Intelligent Transport and Communication Technologies (3/0) Topics of this course include ITS, ITS operation and implementation, ITS key technologies, integration of ITS and transportation planning, ITS system architecture and wireless communication technologies.

M1464 Traffic Flow and Traffic Control Theory (3/0) Traffic Flow Theory is a basic course of traffic engineering. It is used to describe kinds of traffic conditions. Traffic control model is the most important application. This course includes statistical models, car-following theory, shock wave analysis and queuing theory.

M1656 Global Logistics Management (3/0) This course offers a comprehensive knowledge of global logistics management and discusses basic concepts, methodologies, systematic analysis and strategic planning issues of global supply chain logistics management. Issues about global supply chain, international logistics, global transportation planning, intermodalism, integrated logistics, advanced information technologies and future development are also discussed.

M1721 Traffic Engineering Practice (3/0) The purpose of this course is to explore the traffic characteristics the various types of highways and problems they face in urban areas. In addition, all the possible improvement measures or policies will be discussed to improve their efficiency and safety. With the comprehensive understanding of the associated methodologies, practices and legal issues, the course should provide students basic ability to handle various traffic problems on the urban highway.

M1983 Applied Data Analysis (3/0) The main contents of this course include the development and evaluations of regression models and ANOVA models. This course emphasizes the applications statistical methods to transportation topics using statistical software (SAS) for understanding how statistis applied to the professional fields of transportation.
DEPARTMENT OF PUBLIC ADMINISTRATION

Degrees Offered: B.A., M.A., E.M.P.P.

Chair: Huang, Irving Yi-feng (黃一峯)

The Department

The Department of Public Administration covers four major disciplines in the social sciences: law, political science, public administration, and public policy. Courses concerning law include: Constitutional Law, Administrative Law, Law and Society, Civil Code, Business Law, etc. Courses concerning political science include: Introduction to Political Science, Comparative Politics, and Western Political Thought. Courses of public administration include: Public Management, Organizational Theories, and Behavior, Personnel Management. Courses centered on public policy include: Policy Analysis, Political Economics, Policy Evaluation, etc.

The Master’s Program of Public Policy is designed to train and cultivate future administrators and policy researchers. Thirteen full-time faculty members and two adjunct professors offer about thirty graduate courses every year. The Graduate Program’s major objective is to furnish students with substantive knowledge and analytical skills necessary for policy research, such as problem seeking and identification, solution formulation, and impact assessment. As a result, the course offerings can be categorized as the following types: (1) methodological courses, including Empirical Research Method, Policy Analysis, Comparative Public Policy, and Research Design; (2) courses focusing on public law, including Legal Policymaking, Constitutional Policymaking, Seminar in Administrative Law, and Seminar in Administrative Remedies; (3) courses of public administration and organization, such as: Public Organization and Management, Organizational Theories and Designation, and Seminar on Personnel Management; and (4) courses of various policy areas, including Seminar on Communications Policy and Regulation, Seminar on Fair Trade, Seminar on Securities Policy and Regulation, and Seminar on Ethnic Politics.

Our graduates can consider their future careers in the following fields: government agencies, nonprofit organizations, information technology, news and media, banks and financial organizations, and congressional staffs. Students receiving advanced degrees from the Public Policy Graduate Program are expected to pursue careers in government agencies, nonprofit organizations, and the private sector.

Faculty

Professor
Chen, Ming-siang (陳銘祥)

Associate Professors
Huang, Irving Yi-Feng (黃一峯); Lee, Pei-yee (李珮瑜); Li, Pei-yuan (李培元);
Lin, Li-hsyang (林麗香); Lin, Tsong-jyi (林聰吉); Ni, Tai-ying (倪台瑛); Shing, Chi-lyang (辛其亮);
Sung, Angela Hung-yen (宋鴻燕)

Assistant Professors
Chen, Chih-wei (陳志瑋); Han, Charles chao (韓釗); Huang, Chen-Yu (黃琛瑜);
Hung, Mei-Jen (洪美仁); Lee, Chung-pin (李仲彬); Li, Louis Chih-hung (劉志宏);
Liu, Shu-hui (劉淑惠); Tseng, Kuan-chiu (曾冠球)

Lecturer
Chang, Jen-chieh (張勤傑)

Degree Requirements

The degree requirements of the department are as follows:

1. Requirements for a degree of B.A.:
A total of 141 credit hours are required for graduation. Of all the 141 hours, 98 credit hours are required courses and the remaining 43 credits are electives; 20 of the elective credits have to be selected from courses offered by the Department.

2. Requirements for a degree of M.A.:
A total of 24 credit hours are required for graduation (excluding credits for thesis). Of all the 24 credit hours, 3 courses with a total of 6 credit hours are required and the remaining credits are electives. For this program, there are two semesters in each academic year. Normally, this program takes almost two and a half years to finish and students must register for a minimum of four semesters before graduation.

3. Requirements for a degree of E.M.P.P.:
A total of 32 credit hours (excluding credits for thesis) are required for graduation. Of all the 32 credit hours, 2 courses with a total of 6 credit hours are required and the remaining credits are electives. For this program, there are two semesters in each academic year. This program usually takes two to three years to complete and students must register for a minimum of four semesters before graduation.

**Course Descriptions**

**Undergraduate Courses**

**A1605 Human Resources Development (0/2)** The use of ‘Human Resource Development (HRD)’ began from the 1970s to indicate the shift of treating human resources as assets of an organization. HRD means a strategic method of developing talents with work-related competencies. For organizations, HRD can be divided into Management Development (MD) and Career Management (CM). This course will focus on these two fields to help students learn related theories and skills.

**A1641 Political Communication (2/0)** This course covers topics such as the channels of political propaganda, media influences on politics, media polls, and media responsibility.

**A1970 Introduction to Economics (3/0)** This course discusses two main parts: (1) micro-economy, including: price and theory of supply and demand, analysis of acts consumers, theory of production, structure of cost, structure of market, and supply and demand of production factors; (2) macro-economy, including: national income, economic Growth, fiscal policy and monetary policy etc..

**B0033 Essentials of Civil Law (3/3)** Civil laws are basic laws that contain regulations of social life and have a broad scope. This course introduces their basic concepts and popular case studies, with emphasis on important legal issues in general civil laws, debt, asset right, and inhabitation.

**B0302 Economics (3/0)** This course is designed to give students a basic understanding of economics. We will discuss and research the causes of problems in modern economy, as well as resource choices and allocation for maximal effects. Theories will be explained with economic conditions and social phenomena of different countries as cases.

**B0173 Commercial Law (0/2)** This course introduces fundamentals of company laws and regulations of commercial papers, insurance, and oversea business. Regulations on organizational structure of company, protection of interest of share holders, and type and right protection of commercial papers, will be discussed.

**B0433 Securities and Exchange Law (0/2)** This course introduces framework and mechanism of capital market. Focus is placed on regulations of security exchanges, including important issues such as company stock buyback, business management, and prevention of insider trading.

**M0012 Personnel Administration (2/2)** This course will help students to learn the basic concepts and skills of human resource management in governments including the major fields of recruitment, selection, HR development and rewarding. It will be an analysis course for government personnel policy.
M0036 Public Policy (2/2) This course aims to introduce basic concepts of public policy and stages involved in policy process, including policy problem identification, policy design, policy implementation and policy evaluation.

M0048 Comparative Government (3/3) This course aims to introduce basic concepts of public policy and stages involved in policy process, including policy problem identification, policy design, policy implementation and policy evaluation.

M0098 Introduction to Criminal System (3/0) This course provides students with a general knowledge of criminal law, an introduction to criminal law, and criminal procedure punitive power.

M0100 Comparative Personnel Systems (2/0) This course will provide students related concepts and knowledge on civil service systems in major countries including US, UK, France, Germany, and Japan. The major goal is to help students prepare for the national civil service examination. It will be an online course.

M0104 Local Government (2/0) This course discusses from the legal perspective the issues of the local governments’ organizational structures and operations in Taiwan. The instructions includes the history of the local governments’ structural changes and the relationship between the central and local governments.

M0130 Administrative Law (3/3) This course contains the type and legal effects of the administrative actions, the main administrative procedure, the administrative sanction, the administrative execution and the law relating to administrative grievance and litigation.

M0132 Public Administration (3/3) This course introduces the history, the theories and methods of Public Administration. By guiding the students to investigate the big issues of public administration, the course specifically emphasizes the aim of helping students to learn the knowledge about how to employ related theories and techniques to analyze and solve administrative problems in the real world.

M0146 The History of Western Political Thought (2/2) The purpose of this course is to provide students with an introduction of the development and characteristics of the western political thoughts. According the historical process, from ancient to modern, the theories of political philosophers would be interpreted by critical vision, in order to create the ability to judge the contemporary political world.

M0195 Introduction to Law (2/2) This course is intended to expose studies to the kingdom of law with special emphases on the meaning, functions, and nature of law. Students are expected to learn some basic notions and principles of law as well as some basic knowledge regarding current law (positive law) of Taiwan.

M0206 Introduction to Political Science (3/3) The purpose of this course is to provide students with an introduction of the basic concepts and theories in the study of politics. This course will focus on the scope and methods of politics, systems of government, political ideologies, democracy, the state, nations and nationalism, global politics, political culture and communication, elections and voting, parties and party systems, interest groups, the legislative branch, the executive branches, the judicial branches, and the policy process. This course will thus enhance the students' understanding of the theory and practice of politics.

M0269 Financial Administration (2/2) The course will cover some basic concept in economics, particularly in government failure. Then, the tax system as well as budgeting system will be introduced. We will also investigate a number of theoretical arguments with regard to the budget reform around the world.

M0460 Securities and Exchange Law (0/2) This course is intended to familiarize students with the regulation and administration regarding the security exchange in Taiwan.

M0470 Policy Evaluation (2/0) This course is intended to provide students with intensive knowledge regarding policy evaluation, the last chain of public policy. The topics covered include major categories of policy evaluation: the evaluation of need, the evaluation of process, the evaluation of outcome, and the evaluation of efficiency, and their methods respectively.
M0556 Logics (2/0) This introductory course covers a wide range of logic and reasoning topics from philosophy of social science to symbolic logic. It is designed to enhance learners’ reasoning and critical thinking skills through principles of logic.

M0564 History of Taiwan’s Politics (2/0) This course provides a basic knowledge in: (1) The process of political transition, revolts, and oppressions in Taiwan when ruled by Dutchman, Ming-Jeng, Ching Dynasty, and Japanese; and in Taiwan in post World War II (2) introduction of the 228 incident, opposition-movement, economic developments, social struggles, and democratic reforms.

M0570 Public Management (0/2) This course introduces government divisional management. From the late 70s the innovation of "New public sector management” and administrative reform movement initiated simultaneously by the government transformed the process reform, environment reform and practice, the process of benefit execution.

M0674 Political Economy (0/2) The purpose of this course is to provide students with an introduction of the relative issues in the study of political economy, which influenced the global political economic transformation in the 20th century. This course will focus on the development of advanced democratic states, the economic policy of transformed states, and the way of how to develop the last developed states. This course will thus enhance students’ understanding of the contemporary political economic situations.

M1036 Information Policy and Regulation (0/2) This course investigates the nature and function of information, and goes further by exploring the existing system of law in the eyes of the information economy.

M1041 Political Party and Election (2/0) This course provides students with some basic idea concerning the party system, the electoral system, ethnic politics in Taiwan, campaign strategies, and voting behavior.

M1042 Administrative Ethics (2/0) This course will discuss the concepts of ethics in public service including violation of ethics code, achieving responsibility, and accountability.

M1103 Knowledge Management (2/0) The purpose of this course is to make students understand and establish the fundamental capability of knowledge management. Different teaching methods including lectures and discussions will be employed to promote students’ learning interests.

M1179 Nonprofit Organization (2) This course deals with the nature and function of the nonprofit organization, its difference and similarities to commercial enterprises, and its regulation imposed by governments.

M1182 Social Policy and Social Legislation (0/2) The goal of this course is to understand Taiwanese social policy and it’s implementation. Based on political and sociological inquiry and centered on governmental institutions and administrations, the course can illuminate the dispositions and possibilities of Taiwanese social policymaking both past and present. Topics also include social welfare theories and evolution of Taiwanese social regime, i.e. social security, health care, employment programs and pension.

M1256 Crisis Management (2/0) This course helps students understand and analyze the meaning of crisis management, and also teaches students how to turn a crisis into an opportunity and to make decisions and change correctly. It helps governments, the enterprises, and the individual solve problems when they face a crisis. At the same time they can turn bad luck into good fortunes.

M1259 Political Communication (2/0) The purpose of this course is to teach students to realize what is political communication; How to research about political communication; And what's the role and function of the media in the emerging democracy, especially in Taiwan.

M1667 Cultural Affairs Administration (2/0) This is an introductory course on arts and cultural institutions in Taiwan. Themes are focused on assessment of government’s role in arts and cultural
development, policy and management of the arts and cultural industry, and community cultural planning.

M1743 Total Quality Management (2/0) This course introduces the following subjects: understanding the needs of customers, quality planning, resource management, design development, procurement, manufacture, measurement analysis, service after sales, etc., and how to promote total quality of an enterprise.

M1763 Privatization Policy and Practice (0/2) This course introduces students to a general understanding of privatization policy and practice by reviewing theoretical and empirical analyses of privatization, by providing a comparative perspective, and by assessing debates on related issues of competition and regulation. These debates then help to examine the formulation and implementation of privatization among different industries in Taiwan.

M1804 Government Performance Management (0/2) The purpose of this course is to introduce from bureaucratism to transformational in performance management for the government.

M1926 Business Competition and Consumer Protection (0/2) This course introduces students the rules and regulations concerning market competition and consumer protection. Its purpose is to enable students to grasp the basic knowledge about the norms that firms should follow when engaging in market competition. Students will also learn from this course the recourse to which consumption disputes could be resolved.

M1927 Labor Law (0/2) The aim of this course is to increase students’ knowledge of labor laws and the relevant cases. The course will consist of lectures and discussions of cases. The lectures are aimed at helping students understand the domestic labor law system and its legal foundation, while the discussions of actual cases will involve each group of students presenting a three thousand-word report.

M1995 E-Governance (2/0) This course introduces the history, challenges, cases, and trends of e-governance. Several topics will be covered: 1) current Taiwan’s e-government initiatives; 2) Program evaluation methods of e-government; 3) online service delivery systems; 4) e-democracy; and 5) digital divide. The main purpose of this course is to provide the concepts and methods for public managers to succeed in using ICTs to improve public service quality.

S0467 Applied Statistics (2/0) The course is intended to strengthen students’ knowledge in statistics, primarily in how to utilize the statistical software to analyze the statistical issues and basic calculations. The Software, EXCEL, will be used in this course.

T0070 Sociology (3/0) The aim of this course is to present an integrated account of how the discipline of sociology contributes to our understanding of human beings’ collective life i.e. dynamics, relationships, process and trends of collective action in contemporary society. Individual as well as societal issues will be addressed under sociological reflexivity and modernity perspectives.

T0081 Research Methods (0/2) This course deals with the following: politics and analysis, development of research questions, measurement, data collection-questionnaire and interview, data analysis-coding, data analysis-frequency, data analysis–cross tab and correlation, and report writing and presentation.

T0148 Organizational Theory and Behavior (2/2) This course introduces theories and applications regarding the behaviors of individuals, groups, and organization systems so as to help the student to develop abilities and skills of management and lay the foundations for advanced study in the future.

T0696 Constitutional Law (2/2) This course includes two sections. In the first half of the semester, we discuss the fundamental human rights. In the second half of the semester, we introduce the operation of governmental organizations.

T0805 Business and Law (2) The major theme of this course is to introduce basic legal concepts related to rights and obligations of an enterprise under Civil Code and Company Act, regulation regime for enterprises, corporate governance and management, employees disputes, etc. This class will also
refer to some cases in the real world to give the students exercise opportunities and make the lessons more understandable.

**T0806 Life and Law (2)** In this course, we will introduce fundamental legal concepts by the common legal problems in our daily life. According to the legal arena of tradition, we divide the course into three sections. First is the Public Law; in this section, the topics we want to discuss are from administrative organizations to the human rights in the Constitutional Law et al. Second is the Civil Law; in this section, the topics we want to discuss are from buying a coke to the consumer protection et al. Third is the Penal Law; in this section, the topics we want to discuss are from a criminal behavior to the prosecutor and court acts et al. All students will be divided into four to five groups, and each group is responsible for three summary reports.

**T0807 Introduction to Law (2)** In this course, we will introduce fundamental legal concepts by using the formal legal textbook. First we want to discuss what law is and the differences between law and the other social norms like morality, religion and politics et al. Second we want to discuss the forms of law, from the Constitutional Law, Legislative Law, Executive Order, Local Regulations, and Treaties. Third we want to discuss the Habitual Law, Legal Theory, and Legal Interpretation. Fourth we want to discuss the Kinds of Law in different standards. And according to the legal arena of tradition, we then divide the course into three sections: the Civil Law, the Penal Law, and the Public Law. In each section, all students must participate and report in class following the textbook chapters in order to learn actively and positively.

**T0808 Democratic Politics (2)** This course provides a comprehensive introduction to the study of democratic politics. It covers the classical topics such as: the concepts of politics, definitions of democracy, models of democracy, democracy and globalization, and democracy and its critiques. This course also examines a number of contemporary issues as well as the future prospects of democratic politics.

**T0809 Civil Society (2)** This course introduces the basic concepts of civil society and general rights and duties of citizens. It also discusses how a civil society helps to advance social justice, accumulate social capital, strengthen democracy, and increase our capacity to deal with crisis and fight against climate change. Last, the course discusses how the development of social media affects the civil society.

**T0811 Civil Participation (2)** This class will introduce various theories of public participation through the classic political thought to contemporary political science. Also, some approaches to participation in political practice will be explored in the course. The teacher and students will discuss some real cases of civil participation in modern policy cycle that have occurred aboard or in Taiwan.

**T0812 Sustainable Development and Democratic Participation (2)** The goal of sustainable development is to meet human needs while preserving the environment. Its success depends on active participation from different industries in various countries. This course will introduce the concept and scope of sustainable development and utilize case studies to show how different industries could contribute to sustainable development. Industries covered in the course include the computer, automobile, food, beauty and fashion, and financial industries. Governmental efforts to pursue sustainable development both domestically and internationally will also be presented, along with local examples of community participation in sustainable development. This course will use materials from the United Nations Environment Programme, CNN, Discovery, and various web sources to illustrate recent trends in sustainable development. In doing so, it will provide students with the latest information on this topic, deepen their interest, and help them develop creative ways of seeking sustainable development in the future.

**T0813 Civil Culture (2)** What does civil society mean? Do we have a global civil society? What is a role of citizens in a contemporary world? Are human rights universal or are they based on cultural differences? Does culture matter in international relation and what is its impact? These are the questions to which we will try to answer during the course. During the course students will learn general information about civil society concepts and explore different dimensions on the subject especially focusing on norm and activities.

**T0873 Gender, Life and Law (2)** This course introduces necessary legal knowledge and design cases about some major topics of related laws such as family law, civil law, criminal law etc for students to
realize legal issues involved in practices between sexes and life. For example, is an abortion guilty in ROC or not? What legal steps could you adopt to deal with violence from family? The lecture will lead you to explore “legal world” via interesting cases.

Master’s Program

**B0110 Policy Analysis (2/0)** Policy analysis is a social and political activity, which is consisted of public problems identification and solutions made by policy analysts. This course provides different approaches and general methods of policy analysis. On the basis of policy analysis theories, policy context, values, discourse, and citizenship are going to be discussed, and a framework of policy analysis is also to be built.

**M0476 Organization Theory and Management (2/0)** This course introduces the managerial implications of organizational theories and concepts that are necessary for managers to formulate effective strategies to cope with hyper-competition. In addition, the most recent developments in organization theories such as organizational economics, organizational ecology, institutionalism, and network organizations are also addressed to provide an in-depth understanding of their meanings and implications for managing organizations.

**M0630 Seminar on Strategic Management (2/0)** This course addresses ways to reinforce response capability and improving the ability of resources utility in organizations through strategic management.

**M1018 Legal Policymaking (0/2)** This course introduces students to the conjuncture of law and public policy. Topics include legal drafting and legislative process, the interface of law and policy, various forms or methods of state intervening mechanisms, choosing from law and alternatives, selection of implementing agencies, etc.

**M1030 Seminar on Political Economics (0/2)** This course studies issues of economic development and state capacity. There are three main topics in this course: the developmental state, the function of the civil society, and the collaboration between the state and the civil society.

**M1122 Special Topics on Ethnic Politics in Taiwan (2/0)** This course offers basic concepts, theories, and conceptual frameworks of ethnic relations in general. Three dimensions of ethnic interactions in Taiwan are thoroughly investigated and students will explore how the constitutional, party, and electoral systems may be arranged to accommodate ethnic cleavages.

**M1228 Seminar in Administrative Law (2/0)** The seminar examines theoretical issues and practical problems in Administrative Law, including Taiwanese and Japanese legal system and practice.

**M1236 Seminar on Political Behavior (0/2)** This course provides students with opportunities to be familiar with major fields of political behaviors including: voting behavior, political psychology, public opinion, and political communication.

**M1335 Bureaucratic Politics and Institutional Design (2/0)** This course explores the patterns of bureaucrats’ behaviors. We examine a wide range of bureaucracies, including the U.S. Army, the FBI, the DEA, the CIA, the FCC, and the Social Security Administration. The main purposes are to answer what government agencies do and why they do it and to describe the efforts we should make on improving the management of government agencies.

**M1341 Research Method and Design (2/0)** The goal of this course is to illustrate the process of completing a research paper. A variety of research methods are introduced.

**M1357 Methods of Quantitative Analysis (0/2)** The course tries to use numerical models to tackle the public policy issue. We want to target how to design empirical models to analyze the public policy problems and utilize the statistical software for assessment. The primary software will be used is SPSS.

**M1385 Special Topics on Political Institutions (0/2)** This course is designed to equip students with basic concepts and theories on political institutions.
M1388 Qualitative Methods (0/2) The course aims at using the basic concepts and research methods of the qualitative approach. By means of reading the assigned articles and doing field studies, the students are expected to get acquainted with the skills and techniques of analyzing and interpreting the phenomena in the daily life of our society.

M1483 Legal Methodologies and Thesis Writing (2/0) This course is intended to provide students with intensive knowledge regarding legal research methods as well as legal epistemology. Emphasis is placed on several common legal research methods, such as legal hermeneutics, comparative law, sociological analysis, and cost and benefit in legal analysis. Upon finishing the course, students are able to employ these research methods in topics of their choices.

M1492 Power and Human Rights (2/0) This course focuses on the topic of Power and Human Rights. For contemporary Constitutions, it is an important issue to figure out the relationship between Power and Human Rights. Topics will be divided into three main parts: (1) Human Rights and Society, (2) State Power and Human Rights, and (3) Social Power and Human Rights.

M1636 Program Evaluation (0/2) Designed to satisfy practitioners’ need for evaluation methods and techniques, this course focuses on various types of program evaluation such as formative evaluation, monitoring evaluation, outcome evaluation, and cost-benefit evaluation. Special care is devoted to criteria and measurements for evaluation as well as models thereof. Upon completion, students are able to handle the task of program evaluation in real situations.

M1714 Special Course for Business Law (0/2) This course emphasizes the important issues of business management and regulation, especially the lately amended business laws, and reviews of the legislative background of the changes are included in this lecture.

M1808 Constitutional Change (0/2) This course focuses on the theory of constitutional change, and the transformation of constitution in Taiwan. Topics include constitution-making, constitutional amendment, Verfassungsänderung, etc.

M1810 Seminar on Policy Evaluation (0/2) This seminar offers a systematic approach bringing a closer relationship between policy planners and decision makers and those who are involved with social program implementation and assessment. In this seminar, we will discuss a couple of issues such as tailoring evaluations, diagnostic procedures, strategies for impact assessment, etc.

M1812 Seminar on Environment Law (2/0) The Seminar presents different approaches for protecting the environment through national environmental legislation. Emphasis is given on the major components of modern environmental legal systems, for example environmental impact assessment, access to environmental information, science-based environmental standards, and implementation of international agreements, etc.

M1815 Seminar on Administrative Practice (2/0) For this course, the contents of public administrative practices will be introduced at first. Then we select five important topics in this field to discuss which public opinion polls are; also included are administrative program and budget, management of administrative performance, administrative organization reform in central governments, and e-governments.

M1876 Seminar on European Union Politics (2/0) The purpose of this course is to provide students with an introduction of the basic concepts and theories in the study of the European Union. This course aims to enhance the students' understanding of the theory and practice of the European Union.

M1906 Constitutionalism and Democracy (2/0) Constitutionalism enshrines respect for human worth, rights and dignity as its central principle. Democratic theory, too, is based on a notion of human dignity. Although the strain between the two theories is always real and often serious, to an extent, they need each other. We will discuss how they can coexist in a country, and analyze the elements of constitutional democracy.

M1907 Seminar on UK Politics (0/2) This course provides an in-depth examination of UK politics. It covers the classical topics in the study of UK politics such as: the historical context of UK politics, the
constitutions, the Monarch, the House of Lords, the House of Commons, the Cabinet system, political parties, and elections in the UK. This course also examines a number of contemporary issues in UK politics as well as the future prospects of UK politics.

**M1950 Seminar on Administrative Law (2/0)** In matters of public law, the role of the ordinary courts is of high constitutional importance. It is a function of the judiciary to determine the lawfulness of the acts and decisions and orders of the Executive tribunals and other officials exercising public functions, and to afford protection of the rights of the citizen. Legislation which deprives them of these powers is inimical to the principle of the rule of law.

**M1964 Seminar on EU Governance (2/0)** The purpose of this course is to provide students with an introduction of the basic concepts and theories in the study of the European Union. This course aims to enhance the students’ understanding of the theory and practice of the European Union.

**M1978 Policy Innovation and Diffusion (2/0)** This course reviews the diffusion process, concepts, model developments and empirical studies, particularly concerning the public policy diffusion. Students are expected to apply diffusion theory to an existing innovation.

**M1980 Seminal on Intellectual Property (2/0)** Intellectual property (IP) is one of the major promotion elements for knowledge economics. How to protect and use it becomes the responsibility of every citizen. This course will provide related concepts and knowledge through inviting scholars and experts who give lectures.

**T0081 Research Methodology (3/0)** This course includes many topics regarding the research methodology in social science, particularly in quantitative method. Formation of research questions, literature review, research methods, and the writing of research paper are all included in this course. We also require students to work on a real research paper at the end of the semester.

**T0808 Democratic Politics (2/0)** This course provides a comprehensive introduction to the study of democratic politics. It covers the classical topics such as: the concepts of politics, definitions of democracy, models of democracy, democracy and globalization, and democracy and its critiques. This course also examines a number of contemporary issues as well as the future prospects of democratic politics.
DEPARTMENT OF MANAGEMENT SCIENCES
AND DECISION MAKING

Degrees Offered: B.B.A., M.B.A., EMBA, Ph.D.

Chair: Liao, Shu-hsien (廖述賢)

The Department

The Department was established in 1972 when the Graduate Institute of Management Sciences
offered the master's degree in management sciences concentrating on system analysis. Two more
concentrations, management sciences and management information systems, were added in the
following year. In 1975, it began to offer the first Ph.D. program in management sciences in Taiwan,
ROC. A concentration on managerial economics was added to the master's program in 1978; and the
concentration of management information systems was expanded and became the Graduate Institute
of Information Engineering in the same year. In 1992, the concentration of system analysis was expanded
and became the Graduate Institute of Management Information Systems while the concentration of
managerial economics was expanded and became the Graduate Institute of International Business. In
1993, the master's program was divided into two groups: Group A is a quantitative group and group B
is a general management group. In 1998, the department offered an undergraduate program in
management sciences. In the 2002-2003 academic year, the Department was transformed into two
divisions: Department of Management Sciences and Decision Making that offers the undergraduate
degree, and the Graduate Institute of Management Sciences that offers MBA, EMBA, and Ph.D.
degrees.

Faculty

Professors Emeritus
Sheng, Ching-lai (盛慶琪); Yang, Wei-tzen (楊維楨); Huang, Wen-tao (黃文濤)

Chair Professor
Chang, Horng-jinh (張紘炬)

Professors
Ou-Yang, Liang-yu (歐陽良裕); Chen, Hai-ming (陳海鳴); Liao, Shu-hsien (廖述賢);
Shih, Hsu-shih (時序時); Chuang, Chung-chu (莊忠柱); Tsaur, Ruey-chyn (曹銳勤);
Ku, Tai-kuang (古苔光)

Associate Professors
Ni, Yen-sen (倪衍森); Lou, Kuo-ren (婁國仁); Chen, Ding-yuan (陳登源);
Lee, Hsu-hua (李旭華); Lin, Chang-ching (林長青); Chen, Shui-lien (陳水蓮)

Assistant Professors
Chen, I-fei (陳怡妃); Niu, Han-jen (牛涵錚)

Degree Requirements

The Department of Management Sciences and Decision Making offers the undergraduate degree,
and the Graduate Institute of Management Sciences offers MBA, EMBA, and Ph.D. degrees.

1. Requirements for a degree of B.B.A. in Management Sciences and Decision Making:
   Completion of 137 credits of courses, including 96 credits of required courses and 41 credits of
elective courses, where at least 20 credits of elective courses have to be selected from courses
offered by the Department.

2. Requirements for a Master's degree in Management Sciences:
Completion of 42 credits of courses. Students are also required to submit a written thesis completed under the supervision of a faculty member and pass an oral examination.

3. Requirements for an EMBA Master's degree in Business Administration:
   Completion of 39 credits of courses, including 24 credits of required courses offered by the Department. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

4. Requirements for a Ph.D. degree in Management Sciences
   36 credits of coursework are required, including 2 credits of the required course "University Education and Instruction" and 11 credits of required seminar courses and 1 credit of English Professional Paper Writing. Students are also required to submit a written doctoral dissertation completed under the supervision of a faculty member and pass an oral examination. There needs to be at least two research papers published before the doctoral dissertation, including at least one research paper published in any journal listed in SCI, SSCI, A&HCI or E.I., and at least one research paper published in another journal.

Course Descriptions

Undergraduate Courses

A1376 Ability of Expressing in Spoken and Written Chinese (0/3) This course trains the skills of expression in the Chinese language.

B0033 Essentials of Civil Law (3/0) This course discusses the Civil Law and its development.

B0066 Investment Decision Analysis (3/0) This course introduces investment analyses and strategies.

B0130 Intermediate Microeconomics (3/0) This course covers major microeconomic concepts, theories, tools and their applications. The goal is to provide students a better understanding about analytical methods used in microeconomics, so hopefully we can view the world from a more rational perspective.

B0173 Commercial Law (0/3) This course discusses Business Law and some cases.

B0260 Organizational Behavior (3/0) This course offers the basic model and its content in organizing.

B0302 Economics (2/2) This course teaches elemental theories and development of economics.

B0373 Intermediate Macroeconomics (0/3) This course introduces major macroeconomic concepts, theories and their applications. The goal is to provide students a better understanding about today's economic environment, so hopefully we can explain the past and predict the future.

B0416 Personal Finance (3/0) This course focuses on the concept of financial investment and wealth management including the understanding of related investment laws and asset transmission decision from the tax-saving viewpoint.

B1105 Advertising Marketing and Research (3/0) Global Advertising Strategies examines how experienced marketing professionals help companies gain profit across different borders and cultures. Consumer market research is a form of applied sociology that concentrates on understanding the behaviours, whims, and preferences of consumers in a market-based economy. This course attempts to explore the effects and comparative success of marketing campaigns, and moreover, emphasizes the integration of theory and practice.

E1034 Introduction to Computers (2/2) This course provides a basic knowledge of information and its development.

M0001 Retailing Management (3/0) This course studies important activities from institutional, functional and strategic perspectives, including business activities involved in the sale of goods and services to consumers.
M0003 Human Resources Management (0/3) This course provides theories of human resources management.

M0066 Production and Operations Management (3/0) This course gives an overview of production and operations management, including its activities, concepts, and analyses.

M0115 Multivariate Analysis (0/3) The following topics are included in this course: principal component analysis, canonical correlation, discriminate analysis and cluster analysis.

M0121 Service Management (0/3) This course provides a framework of service activities that integrate marketing, operations, and human behaviors as central to effective service management. In addition, the combination of texts, short cases, and readings make this course suitable for helping each student to become a good service manager.

M0142 Marketing Management (0/3) This course teaches the application of management in marketing.

M0153 Operations Research (3/0) This course studies basic methods and applications thereof.

M0188 Sampling Methods (0/3) This course analyzes different methods of sampling and its application.

M0271 Financial Management (3/0) This course is an application of financial management.

M0286 Project Management (0/3) The practice and theory of Project Management will be related to five processes (Initiate, Plan, Implement, Control, and Close) and nine knowledge areas (Project Integration, Scope, Quality, Time, Cost, Human Resource, Procurement, Communication, and Contract Management).

M0339 Accounting (I) (2/2) This course provides the basic knowledge of accounting.

M0344 Data Processing (2/2) This course helps students operate computers.

M0404 Management Mathematics (0/2) This course is an application of mathematical approaches in management.

M0405 Management (3/0) This course teaches theories and practices of management.

M0477 Quality management (3/0) This course discusses related theories of quality control in business.

M0500 Decision and Systems Analysis (0/3) This course offers a general view of managerial decision making with methods and applications.

M0517 Statistics (3/0) This course teaches methods and theories of statistics.

M0719 Bayes Methods in Statistics (3/0) Basic Bayes framework is introduced in this course. Two main topics, Bayes estimations of parameters and Bayes decision rules, are emphasized. Topics related to Monte Carlo Markov Chains (MCMC) methods are also discussed.

M0746 Planning and Management (3/0) This course teaches essential theories and methodologies to carry out plans or projects.

M0848 Managerial Economics (0/3) This course introduces basic theories related to managerial economics. It is meant to enable students to understand the economic surroundings of business and managerial knowledge related to economics.

M1103 Knowledge Management (3/0) This course focuses on exploring theories and applications of knowledge management.
M1104 Supply Chain Management (3/0) This course focuses on how to manage supply chains, including related concepts, strategies, and models. It covers a comprehensive breadth of supply chain topics, and addresses major challenges in this area.

M1229 Brand Management (2/0) As the values of brand are gradually recognized in the context of competitive markets, a variety of firms increasingly emphasize the significance of brand for their competitive advantages. This course aims to incorporate contemporary developments and well-established concepts to provide students fundamental frameworks and techniques of brands, brand equity, and strategic brand management to make better managerial decisions on the related topics.

M1570 Applied Statistical Software (3/0) Computer software has changed the quantification research and statistical analysis. The software SPSS is designed to carry out large scale quantification research, data processing, and the statistical analysis. The introduction of SPSS software application will help students establish a set of statistical knowledge and analysis ability.

M1746 Fund Investment Management (0/3) This course introduces the product and investment process of current mutual funds available on the domestic and foreign markets. The evaluation methods of various mutual funds will also be discussed.

M1776 Advanced Business Software(3/0) Since quantitative models have lent themselves to computerized solutions, some popular, accessible software packages, such as MS Excel and SPSS, begin to be extensively utilized in statistics, management science and data mining settings. This course aims to introduce these software packages to address the managerial decision-making problems, with benefits of information technology instead of tedious manual calculation.

M1861 Market Survey and Research (0/3) This course offers a solid coverage of the most important parts of the theory and applications of marketing survey. The major contents of this course include industrial analysis, statistical program application, data collection, the process of marketing survey, and commercial briefing. Students will be put in groups to finish a marketing survey report with employment of statistical methods. In addition, each student is requested to submit an attainment report of lecture.

M1862 Security Analysis and Practice (0/3) This course introduces many financial instruments and analyzes expected return and risk for these financial commodities. In addition, this course will explain and analyze how these financial instruments work in the real world.

S0191 Regression Analysis (3/0) This course discusses the application of mathematical theories to statistical regression.

S0325 Calculus (2/2) This course covers basic concepts of limits, differentiation and integration and integration of functions of one variable, infinite series, functions of several variables, partial derivatives, multiple integral.

M1564 Analysis of Technological industry (0/3) This course integrates technology management and industrial analysis in terms of exploring how technological industry develops under an uncertain environment. Thus, different theories and analysis methods are introduced to students. Case studies are also discussed in class.

Master's Program

B0260 Organizational Behavior (0/3) This course discusses characteristics of organizations and their related subjects.

M0066 Production and Operations Management (3/0) This course addresses the problem of integrating across a wide span of activities including production functions, warehousing function, transportation, and marketing interface. Moreover, some popular and interesting issues such as productivity measurement and competitive strategies, forecasting, product and service designs, capacity planning and process alternatives, location selection and facility layout, job design, inventory management, aggregate planning and master production schedule (MPS), MRP and ERP concepts, and even scheduling methods will be discussed during this course.
M0142 Marketing Management (0/3) This course expects students to know required activities for implementing, monitoring, and controlling marketing strategic programs. Discussions also include ethical issues in the development and implementation of strategic marketing programs.

M0154 Operations Research (I) (3/0) This course is to provide the scientific approach to the analysis and solution of managerial problems. Essentially, this approach involves the linear programming, mathematical programming and probabilistic models.

M0155 Operations Research (II) (0/3) This course is to provide the scientific approach to the analysis and solution of managerial problems. Essentially, this approach involves the linear programming, mathematical programming and probabilistic models.

M0188 Sampling Methods (0/3) This course analyzes different methods of sampling and its application.

M0271 Financial Management (3/0) This course includes an introduction to the financial environment, value and risk, capital budgeting, capital structure, and working capital management.

M0348 Information Management (0/3) The course gives a contemporary overview of information technology and its applications. Some spreadsheet-based and web-based examples are investigated.

M0391 Management Theory (3/0) This course emphasizes classical human relations, human resources, behavioral and quantitative management methods. Contents include planning, organizing, leading and controlling, the employment cycle, and organization design and motivation.

M0719 Bayes Methods in Statistics (3/0) Basic Bayes framework is introduced in this course. Two main topics such as Bayes estimations of parameters and Bayes decision rules are studied. Topics related to Monte Carlo Markov Chains (MCMC) methods are also discussed.

M0801 Human Resource Management (0/3) This course emphasizes basic human resource functions of both personnel specialists and operating managers. Critical issues include selection, training, compensation, performance appraisal and discipline.

M1103 Knowledge Management (0/3) This course focuses on exploring theories and applications of knowledge management.

M11788 Financial Econometrics (3/0) Products based on financial derivatives have become an indispensable tool for risk managers and investors in recent years. Insurance products have become part of almost every personal and business portfolio. An increasing range of securities allows risks to be hedged in a way that can be closely tailored to the specific needs of particular investors and companies. The ability to handle efficiently and exploit successfully the opportunities arising from modern quantitative methods is now a key factor that differentiates market participants in both the finance and insurance fields. This course aims to provide an introduction to quantitative finance. More precisely, it presents an introduction to the mathematical framework typically used in financial modeling, derivative pricing, portfolio selection and risk management to increase the corporation value.

M1205 Mathematical Methods for Management (3/0) This is an advanced course of the finite mathematics such as g-inverse,(semi) positive definite, etc., in matrix differential equation, or other topics.

M1469 Investment and Financial Analysis (3/0) This course introduces investment theory and investment practice, and emphasizes the risks of financial commodities invested by financial institution and individual investors.

M1608 Industrial Statistics and Quality Control (I) (3/0) The first part of “Industrial Statistics and Quality Control” is focused on subjects about the use of modern statistical methods for quality control and improvement. The course covers topics about statistical methods in quality control and improvement, namely, statistical process control tools, process control charts, process capability analysis, acceptance sampling and experimental design for quality improvement.
M1609 Industrial Statistics and Quality Control (II) (0/3) The second part of “Industrial Statistics and Quality Control” is focused on reliability engineering. Reliability engineering deals with the study of reliability: the ability of a system or component to perform its required functions under stated conditions for a specified period of time. This course is designed to provide students with the tools they will need to better understand the factors that cause components and systems to fail. These tools include probabilistic methods to assess time to failure distributions, laboratory tools to conduct and identify failures causes, reliability prediction, Weibull analysis, reliability testing, accelerated life testing, and computer models to identify system failure modes.

M1732 Business Forecasting and Applied Econometrics (0/3) This course introduces forecasting tools and applied methodologies for financial and economic researches.

M1769 Capital Budgeting and Valuation (0/3) The success secret of a corporation is to increase value through its operations. However, corporation should be concerned with the problem of how financial resources available to a firm should be allocated to the many possible investment projects if they are to survive and prosper. The purpose of this course is about how to evaluate the investment projects in the language of the business manager on three building blocks of decision criteria, namely, preferring more expected return to less, or less risk to more risk, or an amount of cash earlier to same amount of cash later. Additionally, there are different valuation methods to be introduced inclusive of the concept of modern exotic derivatives such as real options for maximizing the corporation value.

M1848 Green Supply Chain Management (0/3) Green supply chain management (GSCM) has been emerging as an important issue in the last few years. The purpose of this course is to describe the common framework of the GSCM and its impact on industries. Course topics also include those factors that influence the company to adopt the GSCM, i.e., codes from EU, and methodology for GSCM implementation within company. This course also demonstrates some examples of GSCM application in Taiwan’s electronic industry.

M1849 English Professional Paper Writing (1/0) This is an introductory English writing course, which aims to expand students’ paragraph-writing skills to essay-writing. Students will learn how to generate, develop and organize their ideas into paragraphs and essays. In addition to conventional writing patterns, grammar and sentence structures will also be covered to refine learners’ writing styles. Class activities include lectures, writing exercise, small-group and whole-class discussion, as well as individual and group presentations.

M1947 Seminar in Management Sciences and Decision Making (1/1) This course invites practitioners to share practical experiences with students.

M1948 Engineering Economic Analysis (3/0) This course helps engineers in performing analysis, synthesizing, and coming to a conclusion or making a decision as they work on projects of all sizes. These decisions involve the fundamental elements of cash flows of money, time, and interest rates. Many tools for evaluating alternatives and making decisions on real-world projects are introduced.

S0466 Applied Regression Analysis (0/3) This course analyzes applied regression and its application.

T0081 Research Methodology (0/3) The practice and theory of Research Method will be related to research question and practice, research theory, research variables, research structure, research analysis, research result and discussion.

T0086 Technology Management (3/0) This course discusses the process of technological innovation, technological innovations and strategic planning, technology transfer, research and development management, technological entrepreneurship and new ventures, technological change and organizational structure, managing information technology, economic analysis and methodologies in the management of technology.

M0477 Quality Management (3/0) This course enables students to learn the approach of quality management research by studying the critical content of quality management.

M1512 Service Management (3/0) Students will obtain the whole picture of service management and how to improve service quality.
M0747 Strategic Management (0/3) This course introduces the basic concept of strategy formulation in the competitive environment around the world. All theoretical discussion will be accompanied by some case study.

B1186 Theory Seminar of Business Management (3/0) This course is focused on the enterprise management practice; students will get some sense of the industry management for their career planning after completing this course.

T8000 Thesis (0) This course is required for students who are in the process of writing a thesis.

EMBA Master's Program

M0003 Human Resources Management (3/0) This course emphasizes basic human resource functions of both personnel specialists and operating managers. Critical issues include selection, training, compensation, performance appraisal and discipline.

M0066 Production and Operations Management (0/3) This course gives an overview of production and operations management, including its activities, concepts, and analyses.

M0142 Marketing Management (3/0) This course introduces the application of management in marketing.

M0271 Financial Management (0/3) This course includes an introduction to the financial environment, value and risk, capital budgeting, capital structure, and working capital management.

M0747 Strategic Management (0/3) This course offers a discussion on organizations' long-term strategic directions.

M1103 Knowledge Management (0/3) This course focuses on exploring theories and applications of knowledge management.

M1743 Total Quality Control and Management (0/3) This course introduces students to the history of quality management; company wide quality control; plan, do, check, and action; quality control; quality assurance; quality management with integrative approach; International Standard Organization (ISO); and statistical quality control.


M1848 Green Supply Chain Management (3/0) Green supply chain management (GSCM) has been emerging as an important issue in the last few years. The purpose of this course is to describe the common framework of the GSCM and its impact on industries. Course topics also include those factors that influence the company to adopt the GSCM, i.e. codes from EU, and methodology for GSCM implementation within company. This course also demonstrates some examples of GSCM application in Taiwan’s electronic industry.

M1939 Private Pension Fund Management (3/0) The following issues will be introduced and discussed in this course: (1) Taiwan’s pension fund systems including the public system and the private system, (2) Basic concepts of pension fund systems and management including DB, DC, and hybrid pension systems, (3) Comparison among some major international pension systems including that of United States, Singapore and Hong Kong, and (4) the pension fund management philosophy including in-house management and mandate.

M1940 Product Innovative Design and Development Management (0/3) Topics include introducing innovative design processes and how to implement product innovation tools in design and development management. TRIZ methodology is highlighted and discussed. Software based on TRIZ concept is
given to students for as a tool to complete a team project at the end of the course. Some real-world cases are listed and discussed in the course.

**T0081 Research Methodology (3/0)** This course aims to instruct and present the theory and practice of research methodology.

**T0086 Technology Management (3/0)** This course discusses the process of technological innovation, technological innovations and strategic planning, technology transfer, research and development management, technological entrepreneurship and new ventures, technological change and organizational structure, managing information technology, economic analysis and methodologies in the management of technology.

**T8000 Thesis (0)** This course is required for students who are in the process of writing a thesis.

**Ph.D. Program**

**D0035 University Education and Instruction (0/2)** This course includes five parts: First, to explore the development and change of ideas and spirits of a university; second, to understand recent development trends and reform directions of higher education in advanced countries; third, to probe into some problems, strategies and perspectives of higher education in Taiwan; fourth, to inquire the impact of knowledge-base economy upon higher education and its challenges; and finally, to enhance total quality of higher education and competitiveness.

**M0115 Multivariate Analysis (0/3)** The following topics are included in this course: principal component analysis, canonical correlation, discriminate analysis and cluster analysis.

**M1210 Special Topics on Statistical Applications (0/3)** This course discusses methods and theories of applied statistics and introduces some statistical papers to students.

**M1211 Seminar on Applied Management Science (3/0)** This course discusses research subjects on modeling, theory and application of management sciences.

**M1212 Special Topics on Competitive Advantage of Human Resources (0/3)** This course analyzes the role of employees in the management from the strategic view and resourced-view and explores how to create the competitive advantage to achieve the goals of organization by the Human Resource planning and developing policy. The course outline is as follows: 1) Understand the environment organization faces and analyze the opportunities and the threats of external environment; 2) Evaluate the strength and weakness of organizations and develop competitive human resource strategies at corporate level, business level and functional-level; 3) Analyze the organizational human capital which contributes to the distinctiveness and uniqueness of an organization; 4) Develop and train the human capital of competitive advantage. 5) Compensation strategy and human competitive advantage; 6) The integrated framework of human competitive advantage; And 7) The practice of human resource strategy to create the competitive advantage.

**M1611 Special Topic on Management (3/0)** The purpose of this course is simply to equip students with the capability of conducting academic research in the management field. For the achievement of this purpose, students are requested to read academic articles in the subject of management. The articles will be assigned throughout the semester. All students will be expected to read the articles in order to participate in the discussion. By the end of this course, students ought to complete a research proposal.

**M1725 Seminar on Knowledge Management (0/3)** This course provides an aim and scope of problem domain, theories, and methodologies on knowledge management research area. By doing so, students can learn knowledge management subjects by integrating different aspects of practical events and theoretical models/architectures in terms of research.

**M1782 Topics in Multi-criteria Decision Analysis (0/3)** This course provides an overall picture of multi-criteria decision making with theories, methods, and applications. Topics are broad, including multi-attribute decision making, multi-objective decision making, and group decision making. Some connections among the above three areas are also involved to develop a decision support system.
M1838 Topics on Stochastic Models (3/0) This course explores problems on several stochastic models, such as bath-tub hazard model, unsupervised masked system and some generalized censoring schemes. We have had already several problems in mind and try to solve them through discussions with students in this course.

M1842 Six Sigma Management (3/0) The practice and theory of Six Sigma Management will be related to the DMAIC approach (Define, Measure, Analyze, Improve, and Control) and relevant Quality Management.

M1941 Seminar(I) (2/0) This course offers discussions of individual topics.

M1942 Seminar(II) (0/2) This course offers discussions of individual topics.

M1943 Numerical Methods and Simulations in Finance (0/3) This course introduces the numerical methods and simulations in finance including least squares, nonlinear equations, optimization, interpolation, numerical integration and differentiation, ordinary differentiation, partial differentiation, fast Fourier transform, random numbers and simulations.

M1944 Fuzzy Sets and Its Applications (3/0) Fuzzy Set Theory and its applications describe fuzzy set theory as a very powerful model that can cope with a large fraction of uncertainties in real-life situations. Because of its generality, it can be well adapted to different circumstances and contexts. This course presents an up-to-date, comprehensive and readable treatise on fuzzy set theory and its applications. It is intended for students who major in engineering and computer science. The course is divided into two parts: fuzzy mathematics and applications of fuzzy set theory. The first part covers basic definitions for fuzzy sets, the extension principle, fuzzy measures, fuzzy relations, fuzzy graphs, fuzzy analysis and possibility theory. The second part describes fuzzy control, data analysis and a large area of applications in management and engineering.

M1945 Workshop in Investment Research (3/0) This course will cover paper reading, paper discussion, possible research topics finding, and relevant methodologies for the area of investment research.


M0190 Special Topics on Sampling Theory (3/0) Using various precise sampling designs in combination with appropriate statistical analyses, students are to write papers in marketing research, consumer behavior research, and organizational behavior research. This course is for thesis design and development. Students are required to have a thesis topic, a research proposal and a thesis draft prior to class. This course involves active work toward completion of a final thesis draft that is publishable, which will also be the final paper for the course.

M1974 Seminar on Advanced Decision Models (3/0) Decision making is important in business and engineering. In this class, different kind of decision making models would be discussed, including fuzzy decision making methods, grey decision models, TOPSIS, AHP, DEA, factor analysis, clustering methods and their applications. This course can help students own the publishing ability in multi-decision making.

M1975 Workshop in Behavior Finance (3/0) This course introduces behavior finance by reading relevant academic papers, relevant books or articles. In addition, relevant research methodologies are introduced in order to link with behavior finance and empirical finance.

B0124 Econometrics (3/0) This course focuses on how to specify the quantitative model, how to estimate and test the parameters on sample data. Furthermore the model is used to predict and analyze economic data.
S0467 Applied Statistics (3/0) Topics include: Basic probability concepts, Statistical sampling, Statistical inferences, Nonparametric procedures, Goodness of fit, Linear statistical models.

T0102 Seminar (2/2) This course offers discussion of individual topics.

T8000 Thesis (0) This course is required for students who are in the process of writing a dissertation.
E-Learning Executive Master's Program of Business Administration (EMBA) in Global Chinese Management

Degree Offered: EMBA

Chair: Lin, Chiang-feng (林江峰)

The Department

The program is the first EMBA program, which was qualified and authorized by the Ministry of Education to grant the master's degree through e-learning (distance learning) model in Taiwan. The interaction and learning between teachers and students are conducted via the Internet, and the face-to-face classroom teaching may also be arranged while necessary. The instructors, responsible and highly qualified, will be chosen from a pool of 200 teachers from two colleges: Business and Management. The study timeframe in this program is 2-4 years, and the minimum number of credits for graduation is 36 (not including credits for thesis).

The major purposes of this program are: (1) to provide students the systematic concepts in general management and business, and (2) to provide students an interactive platform to share their experience in practice. After completing the program, students can improve their skills for greater contributions to their organizations where they are employed.

Faculty

There are 15 full-time faculty members who all hold a Ph.D. degree and 15 teaching assistants involved in the program in the recent two years. In the near future, more professors will be invited to participate in the program due to the new courses.

Professors
Chen, Dun-ji (陳敦基); Wang, Chu-ching (王居卿); Tsai, Hsin-fu (蔡信夫);
Chen, Hai-ming (陳海鴻); Chen, Ting-ko (陳廷國); Nieh, Chien-chung (聶建中);
Lii, Peir-chyi (李培齊); Shyur, Huan-jyh (徐煥智)

Associate Professors
Lin, Chiang-feng (林江峰); Hung, Ying-cheng (洪英正); Lin, Ku-jun (林谷峻);
Pai, Di-ching (白滌清); Lo, Hui-chiung (羅惠瓊); Shaw, Reuy-shiang (蕭瑞祥);
Tseng, Yi-ming (曾義明); Wu, Jiin-po (吳錦波)

Degree Requirements

Requirements for an Executive Master's degree in Business Administration:

Successful completion of 36 credits of courses, including 27 credits of required courses and 9 credits of optional courses. Meanwhile, there are 4 credits of thesis writing that are not included in the credits for graduation. Students are also required to submit a written master's thesis, which should be completed under the supervision of a faculty member, and pass an oral examination.

Course Descriptions

Master's Courses

B1100 Strategic Management (0/3) This course teaches students skills of dealing with complex problems confronting managers in a rapidly changing environment. Covered topics include strategic management process, corporate level strategic decisions, business level strategic decisions, functional level strategic decisions, strategy implementation and control.

M0003 Human Resources Management (3/0) This course provides an comprehensive overview of HRM from an upper management perspective. Covered topics include strategic human resource
planning, development of human resources, staffing for long-range, performance appraisal, compensation, and labor relation.

**M0066 Production and Operation Management (3/0)** This course provides an analysis of production management concepts, tools, and practices as applied to production and service organizations. Topics include: Modern analytical methods, quality management, product and service design, process selection and capacity planning, facilities layout, design of work systems, location planning, quality control, aggregate planning, inventory management, material requirements planning, JIT systems, scheduling, project management, and waiting lines.

**M0271 Financial Management (0/3)** This course analyzes underlying theories, principles and techniques used in financial management to maximize the value of a firm. Discounted cash flow analysis, risk and return measurement, capital budgeting, the cost of capital, capital structure theory and leverage policy, dividend policy, long-term financing policy, working capital management, financial statement analysis, mergers, holding companies, and multinational financial management will be discussed.

**M0496 Service Marketing (3/0)** This course will focus on the service sector to introduce the way to market services effectively. The contents of this course consist of the understanding of services, tools for service marketers, challenges for management, and formulation of strategies.

**M1103 Knowledge Management (0/3)** This course focuses on some key concepts such as: the Knowledge Cycle, the taxonomy of knowledge management strategies, etc. It will also examine knowledge management from the following perspectives: organization structure, management and technology.

**M1707 Global Supply Chain and Logistics Management (3/0)** This course introduces concepts and principles of global supply chain management. Topics covered include demand management, production planning, transportation, global sourcing, supplier relationship management, supply chain inventory management, logistics and channel management, and coordination in the supply chain. Furthermore, Real-world cases are used to understand each of these issues and interdependency and integration of them.

**T0081 Research Methodology (0/3)** This course discusses fundamental research issues containing research terminology, research procedures, and general research approaches for information systems researchers. This course prepares graduate students to be able to read research reports in the IS field and enables them to conduct IS research.
COLLEGE OF FOREIGN LANGUAGE AND LITERATURES
Brief History

The College of Foreign Languages and Literatures had undergone a long history of growth before it was established in 1992. It began as an English program, the sole and seminal program of this university back at its inception as Tamkang Junior English College in 1950. The English program was changed into the Department of Western Languages and Literatures in 1958 and expanded over a span of seventeen years to comprise four sections: English, Spanish, French, and German, which were later upgraded to departments in 1975. In 1985, the Department of Oriental Languages was renamed the Japanese Department, and later in 1992 became the fifth department of the College. A year later, the Russian Department was established. The College has since retained its current structure of six departments.

Motto and Goals

The motto of the College—"Innovative Thinking in and for an Age of Digital Learning"—tries to consolidate the spirit shared by its faculty and students in order to thrive in a rapidly changing era of information technology.

In keeping with the triple-objective of the University—globalization, information-oriented education, and future-oriented education—the College provides students with a dynamic environment for learning foreign languages and literatures. This environment is enlivened by academic and multicultural activities, the presence of international faculty and students within the College, lecture series by visiting scholars from abroad, regular international conferences, and an increasing degree of digitalization incorporated into our curriculum and teaching methods.

• The College offers Junior Year Abroad programs, which enable our students to study and experience life at our partner universities in the U. S., Canada, Spain, France, Germany, Japan, and Russia with the hope that they become better equipped persons and learners at the end of the program year.

• The College also works with the College of International Studies to offer interdisciplinary courses to our undergraduates, focusing on area studies, international politics, international relations, and economics.

The ultimate objective of the College is to prepare our students both professionally and personally for challenges that come with an increasingly globalized and digitalized age. We envision a future for our students and help them create their own futures with knowledge and skills acquired in our programs.

Future Development

A three-fold scenario for our future development is as follows:

1. Curriculum Renovation

It includes, first, better cooperation with other colleges of the University to devise interdisciplinary programs instructed in Chinese as well as in English. Second, a team composed of faculty from the six departments has been engaged in developing and promoting an e-learning website, MULTI, for the six foreign languages being taught. Third, another significant renovation in our curriculum, the Multi-Language Translation and Interpretation Program, has been scheduled to start in the 2009-2010 academic year. It will draw upon faculty of our college and professionals from outside the University to staff this 20-credit program. The goal is to train students in the skills of translation and interpretation to meet the demand of a viable market for talents in this field.

2. Enhancement of Our Research-oriented Identity

The College has long enjoyed a fine reputation for effective foreign language instruction. It is one of the few foreign language colleges in Taiwan that have a full-bodied structure in regard to the number of foreign languages taught. Currently, the College has four graduate programs: English, French, Japanese, and Spanish (the English Department offers a two-track program in English and

3. Further Expansion of our Junior Year Abroad Programs
The College's Junior Year Abroad Program was launched in 1993 with the initial efforts of the Japanese Department to send students to study for one semester at Reitaku University of Japan. In the following years, Spanish, German, French, English, and finally Russian, majors went to our partner universities for a one-year study. The number of students participating in the programs has totalled over 2,500 since 1993. Our receiving partner universities include Brandon University (Canada), Indiana University of Pennsylvania (U.S.A.), Winona State University (U.S.A.), Universidad de Navarra (Spain), Université de Franche-Comté (France), Université Nice-Sophia Antipolis (France), Université Jean Moulin Lyon 3 (France), University of Bonn (Germany), Reitaku University (Japan), Josai University (Japan), Josai International University (Japan), Tachibana Women's University (Japan), and Saint-Petersburg State University (Russia).

Common Elective Courses
To encourage student mobility on campus, exposing them to fields outside of their own, we offer elective courses to non-foreign-language majors. The following is a sampling of course titles:
- Simultaneous Interpretation (English-Chinese)
- World Literature in Chinese Translation
- Sociolinguistics
- Contemporary French Culture and Society
- Introduction to Japanese Politics and Economy
- Intercultural Issues
- Introduction to Spanish-Portuguese Classical Music
- Socio-Political Issues of Contemporary America
- Japanese Literary Classics in Chinese Translation
- Digital Teaching Platform: Its Role in Innovating Foreign Language Teaching
- Introduction to Environmental Literature

These course offerings vary from year to year to maintain diversity and encourage faculty participation in this sector of our curriculum.

Course Descriptions
A0685 Journalistic English (2/0) This course aims to equip students with the skills to read English newspapers with some ease. Students will be familiarized with various aspects of a news story, ranging from headlines to its many other constituents. After getting started in the basic structures, students will be introduced to various types of news stories, ranging from political news, financial news, to medical news. Editorials and columns will also be included in the readings.

A0766 German (I) (2/2) This course helps students understand the habits and manners of communication in German and practice the basic sentence patterns in the hope that students will master those habits. This course is restricted to non-German majors.

A0767 German (II) (2/2) This course is for students who have taken “German I.” The development of intermediate German grammar and practices are focused in this course. In addition, the students are encouraged to communicate in German and try to read some German texts in class.

A0838 Practical English (2/2) The purpose of this course is to improve students’ practical English abilities by providing them readings, language practice & activities based on subject-specific readings in such areas as news, international business transaction, and work-place situations.

A0853 Korean (2/2) Basic words, phrases and sentences of Korean are introduced and analyzed in the class.

A1328 Spanish (Ⅱ) (2/2) Set at a basic level, this companion course to Spanish (I) is open to everyone who wishes to enhance their skill for the third most spoken language worldwide. Also included is cultural orientation with an innovative introduction to visual tools such as concept maps and mind maps.
mapping.

A1329 French (II) (2/2) This course deals with intermediate grammar and vocabulary of the French language and helps students improve their reading skills through the practice of reading in French.

A1563 Japanese (III) (2/2) This course includes reading and writing in Japanese at the intermediate level. In reading articles, students can develop more vocabulary and enhance grammar comprehension. In writing short essays, students can apply what they have learned to their own works.

A1849 World Masterpieces in Chinese Translation (2/0) This course introduces some literary masterpieces of the world to students in the College of Foreign Languages and Literatures, in order to meet the requirements in their own respective fields. This course is also appropriate for students in other colleges of Tamkang University.

F0077 The Theory and Practice of International Relation (3/0) This course examines major theories in international politics, from grand theories to functional theories, introduces the basics of each theory in international politics with a focus on interdisciplinary utilities and also explains the application of various theories based on the instructor’s own experience in diplomatic practice.

F0079 Contemporary French Society and Art (0/3) This course introduces the French way of life, behavior, languages, thought, the influence of immigration, and the concept of regions and as an entity with their originality and existence as the country’s frontiers seem to have vanished in the European Union.

F0137 Advanced English Proficiency (0/2) If time permits, all four skills of the language will be drilled in class. We will read, discuss, make comments orally, and then write responses on the subject in question.

F0148 The Historical Background of Current Events (0/2) This course aims to provide overviews on major developments in the world since the end of the Cold War from an inter-disciplinary perspective. It also traces some of those developments back to decades before 1989 for developments in the Islamic world.

F0157 English Conversation for Studying Abroad (2/2) Though hard working and highly accomplished academically, Taiwanese college students have a hard time speaking English at ease. Oral communication in a non-native language is a complex task which requires the full engagement of the learner’s cognitive machinery as well as his social and communicative skills. The students must be taught not only to talk, but also to talk aloud and comfortably, to be well acknowledged when they go abroad. This course aims at achieving this goal through strict training.

F0176 Introduction to Politics and Economy of Japan (0/3) This course intends to acquaint students with the basics of Japanese politics and economy. Student will watch documentary films.

F0210 Interaction Between the Internet & the Language Training (2/0) This course teaches students how to utilize search engines to find useful information in websites.

F0334 Japanese Literary Works in Chinese Translation (2/0) The aim of this course is to give students an understanding of the deep structure of Japanese culture by reading famous Japanese literary works from ancient periods (for example, the Tale of Genji) to modern days (such as works by Murakami Haruki).

F0496 Musical Comedy in France (0/2) This course consists of the following parts:
1. Introduction to French musicals over the past thirty years.
2. Introduction to French songs.
3. Introduction to the relationship between French songs and French musicals.
4. Introduction to American Broadway musicals.
It is hopeful that through this course the students can learn more about French songs, musicals, and culture.
F0543 Development of European Civilization (3/0) This course offers a survey on Western Civilization in a chronological way. It begins with the introduction to the three main sources of the Western civilization, namely the ancient Greek, Roman and Hebrew cultures. Then, the following topics will be presented in succession: the Medieval Age, the Renaissance, Religious Reform, the Enlightenment, French impressionist art, post-modern thoughts and architecture, and the age of globalization.

F0643 A Comparative Study on Classics (0/2) In this course students will read and compare literary works from different countries. Small groups of students will present literary texts and their authors, as well as their cultural, historical, and aesthetic contexts with PowerPoint.

F0732 Advanced Japanese (2/2) The curriculum is developed to an advanced level as heritage from Japanese (I). The program is to enhance pronunciation in conversation and writing skills. Students may experience reading longer articles on different topics, in order to extend their grammar comprehension.

F0781 Interpretation (3/3) Though hard working and highly accomplished academically, Taiwanese college students have a hard time interpreting and translating rapidly and at ease. Mastering translation and interpretation is a complex task which requires the full engagement of the learner’s cognitive machinery as well as his social and communicative skills. The students must be taught not only to well translate and interpret, and to be well acknowledged. This course aims at achieving this goal through theoretical implications with high practicality.

F0782 Approach to Translation (3/0) This course is designed to initiate students into the realm of translation by introducing them some basic guidelines or theories of translation, assigning weekly translation of articles on different topics, and sharing experiences in class discussions.

F0784 Introduction to Practical Translation (0/2) The purpose of the course is to help students enhance English-Chinese translation skills and knowledge through contemporary scholarly journals, current documents and major speeches and statements. Students also are required to engage in English writing and translation in practical ways.

F0802 The Culture and Language of Vietnam (2/2) This course is made up of three parts. In the first part, students will learn basic Vietnamese alphabetical letters, pronunciation, and spelling. The second part will cover Vietnamese vocabulary words and phrases, including nouns, verbs, adjectives, adverbs, and function words. In the third part, students will use the words and phrases they have learned to make sentences, and they will learn to create different dialogues in different contexts.

T0470 Spanish (1) (2/2) This course is set at entry level to build up learners' interest for and beyond language and it is oral practice oriented. The course aims to promote this passionate language to non-Spanish department students. Digital audio/video laboratory workshops is a must.

T0479 French (I) (2/2) This course introduces the basic vocabulary, sentence patterns, grammar structures of the French language, and French culture and daily life.

T0480 Faces of the European Countries (0/3) Europe is one of the centers of the human civilization. Many European heritages are remarkable and have enriched our modern life. This course will lead you and guide you to explore the diversity of the European cultures and treasure the beauty of Europe through audio-visual methods.

T0481 Tibetan Language and Culture (0/2) The objective of the course is to introduce the Tibetan language, including its writing system. Also covered are a special introduction to Tibetan history, religion, art of Tangka, music, Tibetan medicine, teaching of death, ritual life, contemplative traditions, and its environment. The focus will be on the historical and cultural backgrounds of Tibet.

X0002 English Tutorial (2/2) This course is offered exclusively for those who fail to cross the English proficiency threshold suggested by the university before graduation. It is an online course that allows students to get access to the course materials at anytime and from anywhere. In addition to online learning, students are required to attend onsite instruction on designated days.
F0868 Recent History: Major Events and Developments since 911 (2/0) The past is what today will have been tomorrow. It can mean yesterday, the day before yesterday, a few weeks ago, a few months ago, decades ago, or centuries ago. Recent History means what is still closest. With one foot we are still within it, with the other we are attempting our next step. Commentators consider 911 an event that changed the world. In this course we plan to look at some aspects of recent history since then. At times, we may have to go back a bit further. The course will provide overviews, comments and various attempts of making sense.

F0866 Introduction to Translation Theory (2/0) This course will put its central focus on translation and its relation to cultures. Translation, which is not merely the transposition of the same meanings in different languages, actually involves the transposition of thoughts expressed in one language by one social group into the appropriate expression of another group, and it entails a process of cultural de-contextualization and re-contextualization. With the rapid growth of globalization, cultures nowadays are increasingly brought into greater contact with one another.

F0865 Science Fiction Literature and Film (2/0) In this survey of science fiction film we view films and clips from films to analyze cultural antagonisms reflected in the films, social issues defining the period. Essays on science fiction and related film theories will be studied and made available in a course handbook. The focus of the course will be on issues in science fiction as a genre and historically, with emphasis on explorations of the effects of technology on the individual and society; post-apocalyptic films; visions of the future in film and TV; and narrative patterns in SF films.

F0867 Business English Course (0/2) This course is designed to prepare students to use English in a present or future work situation. Students will develop English skills with a focus on business contexts and environments, and they will learn vocabulary that is used regularly in the business world. This course will help practice and enrich communication skills by using English in specific business settings and situations.
DEPARTMENT OF ENGLISH

Degrees Offered: B.A., M.A., Ph.D.

Chair: Huang, I-min (黃逸民)

The Department

The English Department is the oldest department at Tamkang University. It owes its origin to the Tamkang English College established in 1950. The Department now includes three programs, granting B.A., M.A., and Ph.D. degrees. In the 2009-2010 academic year, the Department has 1,144 undergraduates, 72 M.A. students, and 62 Ph.D. students. The M.A. and Ph.D. programs both consist of two academic areas of study: English and American Literature and Teaching English to Speakers of Other Languages (TESOL).

The faculty consists of 39 full-time members and 80 part-time instructors. To enhance the quality of instruction and research, the Department is continuously seeking to hire qualified teachers to lower the student-teacher ratio. Among the 39 full-time faculty members, 33 hold doctoral degrees specializing in literature, TESOL, linguistics, cultural studies, ecocriticism, and other related fields.

Faculty

Professors
Sung, Mei-hwa (宋美琍); Chiu, Han-ping (邱漢平)

Associate Professors
Brewer, Warren A. (卜溫仁); Chen, Yi-wu (陳宜武);
Chen, Yu-shiou (陳玉秀); Doty, Darrel P. (杜德倫);
Guo, Tai-tsung (郭岱宗); Huang, I-min (黃逸民); Huang, Shu-chun (黃淑均);
Huang, Yueh-kuey (黃月貴); Huang, Yung-yu (黃永裕); Shen, Sy-ying (沈斯瑩);
Tsai, Chen-hsing (蔡振興); Wang, Xu-ding (王緒鼎); Wang, Ai-ling (王藹玲);
Wu, I-fen (吳怡芬)

Assistant Professors
Brink, Dean Anthony (包德樂); Chang, Yea-huey (張雅慧); Chen, Chien-chih (陳建志);
Chen, Ji-si (陳吉斯); Chen, Pei-yun (陳佩雲); Chyan, Chin-jau (錢欽昭); Hu, Ying-hsueh (胡映雪);
Lin, Yi-ti (林怡弟); Sieh, Yu-ching (施麗君); Tu, Alex Ming-hong (涂銘宏);
Tsai, Jui-min (蔡瑞敏); Tseng, Yu-ching (曾郁景); Wang, Hui-chuan (王慧娟);
Yu, Hsi-hsi (游錫熙); Ralph, Iris (羅艾琳); Deng, Chin-rong (鄧秋蓉); Guo, Yi-chun (郭怡君);
Lin, Hui-ru (林慧茹); Huang, Shi-yi (黃仕宜)

Lecturers
Brown, Iain Kelsall (包俊傑); Lewis, Kevin Alan (陸凱文); Wu, Yu-yun (吳瑜雲);
Gemmill Simpson IV, Paul (辛譜生)

Degree Requirements

The Department of English offers two postgraduate programs for both M.A. and Ph.D. degrees: English and American Literature and TESOL.

1. Requirements for a degree of B.A. in English:
   Completion of 140 credits of courses, including 104 credits of required courses and 20 credits of elective courses.

2. Requirements for an M.A. degree in English Literature:
   Completion of 32 credits of courses, including 11 credits of required courses and 21 credits of elective courses. Students are also required to submit a written master's thesis completed under the
supervision of a faculty member and pass an oral examination.

3. Requirements for an M.A. degree in TESOL:
Completion of 32 credits of courses, including 13 credits of required courses and 19 credits of elective courses. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

4. Requirements for a Ph.D. degree in English Literature:
Completion of 34 credits of courses, including 8 credits of required courses and 26 credits of elective courses. Students are required to pass qualifying examinations within the first five years, publish at least one research paper in an academic journal or present a paper at a conference approved by the Curriculum Committee, submit a written doctoral dissertation completed under the supervision of a faculty member, and pass an oral examination.

5. Requirements for a Ph.D. degree in TESOL:
Completion of 34 credits of courses, including 7 credits of required courses and 27 credits of elective courses. Students are required to pass qualifying examinations within the first five years, publish at least one research paper in an academic journal, submit a written doctoral dissertation completed under the supervision of a faculty member, and pass an oral examination.

Course Descriptions

Undergraduate Courses

**F0755 Freshman English (2/2)** This course is aimed mainly at improving students' reading comprehension ability.

**A0159 Approaches to the Study of Literature (2/2)** This course helps students learn how to analyze literature in terms of such elements as plots, characters, settings, symbols, and traditional and postmodern forms; to appreciate the aesthetic dimensions of poetry, drama, and fiction.

**A0318 Introduction to Western Literature (2/2)** This course provides a basic understanding of different cultures ranging from Mesopotamian literature to Modernism, to develop a breadth of knowledge about the cultural paradigm shift in the Western world, and to develop techniques of historical as well as critical analysis for appreciating and understanding arts and literatures.

**A0472 American Literature (3/3)** This course offers a survey of the chronological development and background of American literature from the colonial period to the present.

**A0490 English Fiction (2/2)** This course aims to help students develop techniques of reading, analyzing, and appreciating fiction through such elements as characterization, setting, plot, symbols and thoughts of fiction.

**A0496 Current Issues in English (0/2)** This course focuses on readings from editorials, columns, commentaries, and in-depth reports/analyses/studies on current topics both domestic and international.

**A0504 English Translation (2/2)** This course helps students improve their reading and writing skills, which help to sharpen their translation skills. Both theory and practice of translation are discussed, while the focus is on comparison of Chinese and English, both in linguistic and cultural aspects.

**A0506 English Composition I (2/2)** This course trains students' writing ability by offering a basic knowledge and techniques of English writing as well as English rhetoric. Emphasis is placed on frequent practice in writing meaningful and idiomatic sentences and paragraphs.

**A0507 English Composition II (2/2)** This course aims to train students in formal academic writing. They will expand single-paragraph writing into a multi-paragraph essay, learn more about different forms of writing and reinforce the idea that writing is an ongoing process of shaping ideas, writing, editing, and rewriting.

**F0497 English Poetry (2/0)** This course aims to familiarize students with major English and American
poets by examining their poetic forms in terms of "sound and sense" and learn how to apply various interpretive strategies to the reading of poetry in general.

A0514 English Literature I (3/3) This survey course covers the Medieval Period, the Early Modern Period (Renaissance through Milton) and the Enlightenment (late 17th century through 18th century).

A0515 English Literature II (3/3) This survey course covers the 19th century and 20th century, focusing on Modernism and contemporary authors.

F0788 Introduction to English Language Teaching (2/2) This course surveys traditional as well as current methods of English teaching and discusses the teaching of specific language skills.

A0529 English Conversation (2/2) This course is designed to develop students' ability to communicate in English with a focus on fluency and articulation and to acquaint students with useful expressions in daily conversation.

A0532 Oral Presentation in English (2/2) This course focuses on effective English speech delivery skills. Students will learn how to prepare a speech and how to deliver it. Every student has to practice giving speeches in this class.

A0572 Advanced English Workshop (2/0) The purpose of this course is for students to understand the basics of effective communication and to polish English speaking skills, especially those for public speaking.

A0685 English News Writing (2/2) As an introduction to journalism for English majors, this course includes extensive practice in newspaper writing, radio and television reporting, public relations, and advertising.

A0888 Women's Literature (0/2) This course is to familiarize students with different contemporary schools of feminist thoughts and the issues of great concern to various feminists as a background knowledge for appreciating feminist literature and their political debates and action for empowerment and agency.

A1053 English Composition III (2/2) This course emphasizes the writing of argumentative essays. It requires as much attention and efforts to be spent on syntactic structure as on the way of thinking itself, i.e. the proposition of a concept, the elaboration of its significance to certain claims, and the logical approach toward a conclusion.

A1085 Selections from English Drama (2/2) This course is designed to help students read some plays by well-known dramatists in British, American, and European literature. Readings are selected at the discretion and interest of the instructor.

A1152 Introduction to Western Literary Criticism (2/2) This course serves two purposes: (1) to impart a familiarity with the history of Western literary criticism; (2) to cultivate the virtus of an active performance of critical theories--so students will be obliged to apply these strategies to literary texts.

A1617 English Prose (2/2) This course covers selected readings in English short stories and essays on contemporary issues to reinforce students' reading comprehension. It offers lively prose models for grammatical and structural analysis and for appreciation of syntactical beauty and rhetoric strategies.

A6537 English Phonetics (0/2) This course focuses on the following: pronunciation practice in Standard American English; transcription exercises in IPA (International Phonetic Alphabet); contrastive analysis of other phonologies; design of phonetic tools for TESOL use.

F0101 English Oral Presentation (2/2) This course is to help students speak fluent English. Activities of pair work, small group discussions, and role-plays give students opportunities to practice and therefore, hone their English speaking skills.

F0127 Selected Readings in Ecoliterature (2/0) This course helps students acquire a basic knowledge of nature writing as a genre, its relation to ecology and its relevance to the solution of ecological crisis.
It is also designed to raise students' consciousness of ecocriticism while improving students' skill of reading through a perusal of ecological prose, poetry and fiction.

**F0252 Syntax (2/2)** This course covers major issues in English syntax from the viewpoint of generative grammar founded by Noam Chomsky. The course is primarily organized around lectures and in-class discussion. Grades are based on a combination of examinations, and class attendance.

**F0298 Shakespeare in Films (2/2)** This course considers screen adaptations of William Shakespeare's dramas rather than focuses on reading the plays, aiming to explore the issues of cultural studies such as nationalism and sexuality through film representation. Different film versions will be provided for discussion, through which to learn various approaches upon Shakespeare's plays.

**Master's Program**

**A1810 Principles of Instructional Design (0/3)** Learner Characteristics, Task Analysis, Instructional Objectives, Designing the Instructional Sequencing, Strategies, Message, Delivery Methods, Using Evaluation to Enhance Programs: Conducting Formative and Summative Evaluation.

**A1812 Principles and Methodologies of TESOL (3/0)** This course explores the theoretical foundation as well as practical implications. Issues like first language acquisition, styles and strategies, personality and sociocultural factors, constructive analysis, interlanguage, and error analysis, communicative competence, testing, etc. will be discussed.

**A1830 TESOL Practicum (2/0)** This course provides participants with practical experiences to improve the quality of their teaching. The focus will be on teaching techniques, awareness of personal teaching style, lesson-planning skills, ability to select/adapt materials, and other issues related to learners and classroom dynamics.

**A1909 Language and Culture (0/3)** This course helps students understand that to communicate effectively with a native English speaker requires more than just the knowledge of English grammar. It requires that a non-native speaker should be sensitive to the social and cultural aspects of language use and how these differ between the Chinese and English languages.

**A2055 Literary Theory (0/3)** In this course we will read a cross section of critical texts with a special focus on the concepts of identity, difference, and the Other. Thus the purpose of this course is to impart a familiarity with contemporary literary theories and criticism so that students of literature will not only arm themselves with ideas that have shaped the contemporary scene in literary studies, but also can apply them to the reading of literary as well as social texts.

**A2134 English Writing I (2/0)** This course is intended to prepare students to write for a variety of occasions and audiences, with emphasis on graduate level academic writing. Students will focus on matching contents, argumentations, and styles to specific purposes and audiences.

**A2135 English Writing II (0/2)** This course is intended to prepare students to write for a variety of occasions and audiences, with emphasis on graduate level academic writing. Students will focus on a more advanced level.

**A2226 English Writing III (1/0)** Introduction; Diagnostic Test on Structure Skills; Developing Structure Skills; The Reading-Writing Connection; Exposition Strategies---Development by Example and Process Analysis; Exposition Strategies---Development by Comparison and Contrast; Exposition Strategies---Development by Definition; Exposition Strategies---Development by Division and Classification; Exposition Strategies---Development by Cause and Effect; Developing Your Argument; Effective Description; Writing Essays Using Multiple Strategies; Writing about Literature; Writing a Paper Using Research.

**F0188 Second Language Acquisition (0/3)** The goal is to develop a coherent framework for understanding the significance of input in SLA and for evaluating the implications for linguistic theories, SLA, and language pedagogies.

**F0452 Cognitive Linguistics (3/0)** This is a course to raise the awareness of a discipline that has come
to be known as “Cognitive Linguistics” and in what way this discipline has influenced the way semantics, syntax and vocabulary are being investigated. Due to this perspective, the whole issue of language acquisition has been put into a new light. Therefore, the aim of the course is to explore some research in cognitive linguistics and first/second language learning and what this knowledge means to language teachers. Those students who have taken Research Methodology in Language, Culture, and Cognition can see this course as a more in-depth exploration of the issues discussed.

**F0453 Folklore (3/0)** The study of folk narratives overlaps the diverse fields of pedagogy, literature, and linguistics.

**F0462 Literature and Music (3/0)** This course explores the close and complex relation between literature and music as “sister arts.” On the affinity of the two media of expression, Adorno once wrote, “Music resembles language in the sense of articulated sounds which are more than just sounds. They say something, often something human.” In contrast with other media, both are auditory, temporal, and dynamic art forms. In this course, we will address the specificity, aesthetics, and interaction of the two media. We will consider the role/influence of music in literary/philosophical works and concepts (e.g., Ovid, French Symbolists, and Nietzsche). We will explore various articulations of the two in the domains of “classical” music (e.g., “program music” and opera) and “popular” music (e.g., jazz, rock, and musical). Taking concepts such Baudelaire’s “synesthesia”, Wagner’s “music theater”, and Deleuze’s “becoming-music” as points of departure, we will try to grapple with the implications of the musico-literary study. One underlying objective of the course is also to develop a vocabulary and skills to engage in critical understanding of the two “languages” and the diversity of literary and/or musical experiences and practices in today’s world.

**F0500 English Etymology (0/3)** The purpose of the class is to survey the tools and techniques of the science of etymology in order to: (1) document recent English loanwords into Taiwan dialects; (2) document Chinese loanwords into expatriate English in Taiwan; and (3) re-evaluate Chinese-to-English etymologies in standard dictionaries.

**F0583 Alternative Teaching Methodology (0/3)** Students will learn how to design teaching materials and exercises that include games, songs, and even some physical activities based on these theories. They will also be trained in how to create a positive classroom atmosphere that is conducive to learning, and they will be expected to become creative in story games, story telling, drawing, dancing and singing.

**F0586 Story Cycle: Community Imagination and Imaginary Community (0/3)** This course is a critical reading of representative place-based story cycles. A “story cycle”, or variously named as story chronicle, anthology novel, paranovel, or composite novel, is a collection of stories arranged by the author to be read sequentially as a whole. The unity of theme and landscape, the continuity and development of a main character, and the variety of characters and events related to the main character in a congenial place, make “story cycle” a unique narrative genre in examining the development of subjectivity and community value.

**F0600 Teaching Second Language Reading (0/3)** This course explores the topic of extensive reading in theory and in practice. We will have a healthy mixture of lecture and discussion about the teaching of reading in L2 classroom. We will practice extensive reading through daily reading and write reader response journal in keeping with current research on reading-writing connection. A reflective statement (reader’s reflection) of this experience is required at the end of the term in addition to a book report on the Power of Reading and three short (one-page) reports on assigned articles. A love of reading is a prerequisite for success in this course.

**F0613 Introduction to Research Methods and Writing (3/0)** This course introduces practical skills for conducting research and training in the use of literary and cultural theory. We will also discuss matters of style and complete related in-class exercises designed to improve student writing.

**F0741 Queering Sexuality and Identity (3/0)** This course attempts to delineate the critical/cultural landscape of what has come to be termed “The Post-Gender LGBTQ era.” Along the way, this course also hopes to re-create an intellectual and emotional scene, through the acts of reading, argument-making, and fantasizing, in which we can passionately join in the powerful and current dynamism and excitement, in the academia as well as in the streets, that often characterize work in this arena.
F0743 Detective Stories: Repetition and Simulacrum (3/0) This course attempts to shed some theoretical lights on detective stories in terms of two notions: repetition and simulacrum. Repetition is one of the essential elements of detective stories. As a strategy to solve the mystery, the detective usually identifies himself with the criminal and repeats the path of the crime. In this sense, the relation of the detective and the criminal, which implies a possibility of interchangeable identifications, is not simply based on the act of imitation, (namely, the detective imitates the act of the criminal), but a true repetition in which repetition is necessarily differentiated from resemblance or representation, but signifies an identity, or, a simulacrum. Simulacrum, a notion which will be scrutinized through the assigned readings of this course, disturbs the distinction of the original and its copy and bears strong connection to the notions of repetition and identity. By examining several influential discourses on repetition and simulacrum, this course offers an opportunity to explore non-traditional ways of looking at detective stories.

T0085 Research Writing (3/0) This course offers an introduction to the theory and practice of research methods and the discipline of bibliography. Students are required to read various literary or TESOL works and write research papers on them.

F0850 On Literature and Style (3/0) In the introductory chapter of The Object of Literature, Pierre Macherey states that “there is no more a pure literary discourse than there is pure philosophical discourse; there are only mixed discourses wherein language games that are independent in their systems of reference and their principles interact on various levels.” This statement brings up the inextricably entwined relation of literature and philosophy. This course urges students to ask: what is literature thinking about?

Ph.D. Program

A1793 Second Language Acquisition and Teaching (3/0) Theories of second language acquisition and teaching in recent decades will be introduced, discussed, and critiqued.

A2048 Literature and Language Teaching (3/0) This course will explore and debate over key theoretical and practical issues of the teaching of literature. Discussions will focus on an introduction to fundamental issues, implications of the interaction between linguistics and literature of education, and issues raised by the inclusion of literature in the curriculum.

A2132 Literary Theory and Criticism I (2/0) In this course we will read a cross section of critical texts with a special focus on the concepts of identity, difference, and the Other. Thus the purpose of this course is to impart a familiarity with contemporary literary theories and criticism so that students of literature will not only arm themselves with ideas that have shaped contemporary scene in literary studies, but also can apply them to the reading of literary as well as social texts, especially the work by Toni Morrison.

A2133 Literary Criticism II (0/2) This course is aimed at enlarging and complicating those beginning definitions of ecocriticism with an attempt to envision new ways of framing the interrelationship between humans, nature, and the environment.

A2134 English Writing I (1/0) This course is intended to prepare students to write for a variety of occasions and audiences, with emphasis on graduate level academic writing. Students will focus on matching contents, argumentations, and styles to specific purposes and audiences.

A2135 English Writing II (0/1) This course is intended to prepare students to write for a variety of occasions and audiences, with emphasis on graduate level academic writing. Students will focus on a more advanced level.

A2141 Introduction to Sociolinguistics (0/3) This course provides an overview of the field of sociolinguistics, or the study of language in its social and cultural context, with a focus on issues most relevant to the teaching of English.
F0293 Ecofeminist Novels (3/0) This course aims 1) to familiarize students with important ecofeminist theories and knowledge and 2) to apply these theories to read three novels: Frances Mayes’ *Under the Tuscan Sun*, Linda Hogan’s *Solar Storm*, and Margaret Atwood’s *Oryx and Crake*.

F0481 Buddhism and Ecology (3/0) This course aims to introduce students Buddhism as a field of religious ecology. Topics for discussion include: environmental ethics, animal rights, modified anthropocentrism, the pursuit of the big self, cosmological totality, and the cultivation of compassion as a way to raise ecological consciousness. Besides reading various Buddhist scriptures and modern essays on Buddhist response to the environmental ethics, students are required to do a field study of the potential contribution of the monastic community in promoting a green society in contemporary Taiwan.

F0502 Language Testing (0/3) This is an elective course for the PH.D. TESOL students. Language Testing Theories in the recent decades are reviewed and applicable theories are critiqued and examined in the Taiwanese setting with a view to scrutinizing the testing practices at all levels of schools. The course consists of lecturing, discussion, and writing a final paper.

F0578 Studies in Oscar Wilde (0/3) A study of one of the most important minor literary figures of the fin de siecle England. The course will attempt to place Wilde’s work in context to the Pre-Raphaelite and Art for Art’s Sake movements and examine the degree to which Wilde’s homosexuality was a factor in his literary contribution.

F0602 Selected Ecological Essays (0/3) This course aims to familiarize students with the most important ecocritical theories to establish a solid foundation of theoretical approaches to ecocriticism and environmental literature. Ecocritical theories concerned with political theory, environmental ethics, ecohumanism, ecossocialism, and ecofeminism will be studied and discussed.

F0703 Snyder and Native American Literature (0/3) Louise Erdrich’s recently completed tetralogy—*Tracks*, *Love Medicine*, *The Beet Queen*, and *The Bingo Palace*—constitutes a self-consciously historical series that treats the interconnected lives of various characters on and around a fictional North Dakota Chippewa reservation from 1912 to the present. In this course, we will make a philosophical interrogation into the nature of evil and apply it to the reading of Louise Erdrich’s novels.

F0742 North American Native Literatures (3/0) This course aims to introduce to students the most elemental and critical concerns of Native American Literatures. Divided into four components, it considers the following issues: a) the Postmodern and the PostIndian Warrior with a focus on Gerald Vizenor (Anishnabe, 1934-); b) the Vanishing Race and the Museumization of the Indian with a focus on Anna Lee Walters (Pawnee and Navajo, 1946-); c) the Oral Tradition and the Magical Narrative with a focus on Gordon Henry, Jr. (Anishnabe, 1955-); and d) the Trickster and the Nonhuman with a focus on N. Scott Momaday (Kiowa and Navajo, 1934-).

F0916 Psycholinguistics and Language Teaching (3/0) This course will cover major psycholinguistic areas—speech perception, sentence processing, speech production, reading, and bilingualism. Related theoretical developments will also be introduced according to different topics, accompanied with the application of teaching methodology. In most of the class meetings, the instructor and students will report on certain topics and lead in-class discussions. In addition, there will be one term paper.

D0210 Statistic Methods and Application (3/0) This course is designed to explore some important statistical methods in research. These statistical methods include t test, $\chi^2$ test, correlation, ANOVA, etc. The teaching activities include explaining the concepts, citing instances, and exercising sample problems.

F0854 Environmental Aesthetics (3/0) Topics treated by environmental aesthetics range from wilderness areas, through rural landscapes and countryside, to cityscapes, neighborhoods, and market places, shopping centers, and beyond. Indeed, if construed broadly enough, these topics may be at the heart of everything we think of as life and ecosystem. In this one-semester seminar, we will boldly—and perhaps recklessly—try to discuss these topics reflected in different types of novels including Native American novels, science fiction, travel writing, the sea voyage narrative, and some short stories.
F0857 Visual Culture and Discourse on Everyday Life (3/0) This seminar focuses on the visual culture and discourses on everyday life. Both visual culture and discourses on everyday life concern the crisis of modernity and the quotidian—the lack of experience in everyday life, the predominance of spectacle over reality, and the lack of distinction between simulation and image of reality. The purposes of the course are to study how visual cultural theories interpret and interrogate the problems of everyday life in the age of globalization and to speculate about how the discourses on the quotidian, in return, reflect on visual culture.

F0881 Discourse Analysis (3/0) This course is an introduction to the study of how extended language (or language beyond sentence length) used in communication achieves its meaning, purpose and unity for participants. Discourse analysis studies language beyond its grammatical meaning and demonstrates that language is always contextualized and politicized.

F0882 Food and Ecocriticism (3/0) This seminar will explore relationships between food and environmental crisis, primarily addressing implications of the frequent absence of food (as a topic) in environmentalist discussions. We will look at affective ethics implied by and distributed through transnational American eating habits and at how these ethics correspond with the current state of praxis within ecocritical theory.

F0883 Translating Body (3/0) This seminar grows out of the premise that translation provides an apt, if not the best, trope to inquire into the various aspects of the ethical issue about body’s capacity. Walter Benjamin’s translation theory will be brought in for the purpose of translating body. The concept of translation will be fine-tuned by the narratives of body while various modes of narration and configuration about body will be explored in terms of translation in this course.
DEPARTMENT OF SPANISH

Degrees Offered: B.A., M.A.
Chair: Wu, Kuan (吳寬)

The Department

The Department of Spanish, established in 1962, is the oldest of its kind in Taiwan. In 1992, it became a department of the College of Foreign Languages and Literatures. Its main objective is to teach Spanish and the cultures of Spanish-speaking countries, so its graduates can communicate in Spanish, teach Spanish, and play important roles in the relations between Taiwan, and Spanish-speaking countries.

To achieve its objectives, the Department has designed a curriculum with subjects ranging from philology to culture, and organized various activities to help students practice Spanish and experience the culture of Spanish-speaking countries.

The most outstanding features of this Department are its international orientation, its exchange programs with foreign universities, its dynamism in the organization of national and international events, and its forward-looking vision.

The Master’s program, launched in August 2006, is devoted to the training of Spanish-speaking professionals and future scholars in related fields.

Faculty

Professors
Chen, Yea-hong (陳雅鴻); Juan, Hung-hui (邱建威); Perez, Francisco Luis (白方濟); Lin, Yue-hong (林禹洪)

Associate Professors
Blanco Pena, Jose Miguel (白士清); Chang, Mou-chuen (張茂椿); Chen, Hsiao-chuan (陳小雀); Cho, Chung-hung (卓忠宏); Her, Wan-i (何萬儀); Kung, Kwo-wei (宮國威); Lin, Hui-ing (林惠瑛); Lin, Sheng-bin (林盛彬); Ramos, José (羅慕斯); Soang, Lih-lirng (宋麗玲); Wang, Hsiu-chi (王秀琦); Wu, Kuan (吳寬)

Assistant Professors
García Martínez, María Antonia (賈瑪莉); Liou, Ai-ling (劉愛玲); Tai, Yu-Fen (戴毓芬)

Degree Requirements

1. Requirements for a degree of B.A. in Spanish:
   Completion of 140 credits of courses, including 103 credits of required courses and 37 credits of elective Spanish courses.

2. Requirements for a Master's degree in Spanish:
   Completion of 32 credits of courses, including 6 credits of required courses and 26 credits of optional courses. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

Course Descriptions

Undergraduate Courses

A0359 Spanish Conversation I (4/4) This course deals with the listening and speaking abilities of everyday Spanish, such as greetings, personal information, description of the surroundings, etc.
A0360 Spanish Conversation II (4/4) This course practices more phrases, tenses and grammar concepts by listening and oral practice in order to improve students’ Spanish communication ability.

A0361 Spanish Conversation III (2/2) This course, via group discussions, trains students to express their opinions under some presumed circumstances such as making a trip, taking an interview, etc.

A0362 Spanish Conversation IV (2/2) This is an advanced conversation course that provides further training in Spanish speaking and listening, aiming to help students express opinions on various topics fluently.

A0363 History of Spanish art (2/2) This course offers an introduction to the different periods of Spanish art and masters such as Velázquez, Goya, Picasso, Miro, Dali etc.

A1300 Spanish Audio Practice I (1/1) This course offers students with training of listening practice through tapes and basic conversation practice with laboratory equipment.

A1301 Spanish Audio Practice II (1/1) This course is a continuation of Spanish Audio Practice I, in which students practice certain sentence patterns by listening and speaking.

A1452 Spanish Composition I (2/2) This course cultivates students’ Spanish writing techniques in reading as well as rhetoric.

A1453 Spanish Composition II (2/2) This course is a continuation of Spanish Composition I, from which students will learn how to write compositions with more complicated sentence structures, vocabulary, and grammar concepts of an advanced level.

A1454 Hispanic History and Geography (2/2) This course is an introduction to Spanish and Latin American history and geography, with an emphasis on special characteristics of different historical periods.

A1616 History of Latin American Literature (2/2) This course introduces students to Latin American literature up to the beginning of the 20th century, with an emphasis on the study and analysis of major trends and literary works.

F0049 Elementary Spanish Grammar (4/4) This course provides general concepts of Spanish grammar, from the basic conjugation of verbs to simple sentence patterns.

F0054 Intermediate Spanish Grammar (4/4) This course is a continuation of Elementary Spanish Grammar. In addition to the review of elementary Spanish grammar, this course explores deeper into the conjugation of verbs and other tenses.

F0739 Advanced Spanish Grammar (2/2) This course focuses on intermediate Spanish grammar as well as grammar usages presented in short statements about how to form phrases and sentences.

F0141 Introduction of Spanish Literature (2/0) This course is an introduction to the history of Spanish literature from Medieval Literature to Renaissance with an emphasis on the study and analysis of major literary works.

F0241 Spanish Sentence Making Practice (2/2) The content of this course matches the course of Elemental Spanish Grammar, and also is the basic introduction of the course of Spanish Composition I. Students have more opportunities to practice sentence making by the way of absorbing the opinion of grammar.

F0338 Spanish Culture (2/2) This course is a survey of Spanish culture for students to gain a general concept of the language, people's thoughts, arts, society, etc.

F0724 Applied Spanish (2/2) This course trains students in acquiring a global and integral vision in the field of international business. It focuses on commerce lexicon and transactions; that is, business letters, inquiries, quotations, orders, invoicing, requesting payment and business etiquette.
**F0733 Oral Interpretation and Translation (1) (2/2)** This course is an elemental course for oral interpretation and translation. The objective is to practice basic Spanish syntax.

**F0734 Oral Interpretation and Translation (2) (2/2)** This is an intermediate course for translation skills with an aim to train the translation skills from Chinese into Spanish and vice versa.

**F0738 Introduction of Latin American Literature (0/2)** This course introduces students to Latin American literature up to the beginning of the 20th century, with an emphasis on the study and analysis of major trends and literary works.

**F0740 Superior Spanish Grammar (2/2)** This advanced level course is designed for students who have learned Spanish for three years. Along with a review of advanced Spanish grammar, the analysis of the style and its usages in different texts is also an important issue.

**F0338 Spanish Culture (2/2)** The objective of this course is to offer students knowledge of different aspects of Spanish culture, such as folklore, art, history, etc.

**F0776 Introduction To Spanish Linguistics (2/2)** This course aims to help students understand better the origins of Spanish vocabulary, and through the repeated practice in class, students would be able to recognize the words next time when they see them, therefore take interest in them and finally discover the mystery of Spanish. On the other hand, This course also guides students to apply linguistic theories to discourse analysis.

**F0778 Spanish For Tourism (2/2)** The objective of this course is to offer students knowledge about tourism and to learn vocabulary in Spanish.

**F0779 Masterpieces of Spanish novel (2/0)** The course aims to offer the students to have the competence in learning the structure and topics of Spanish literature.

**Master's Program**

**F0623 Methodology of Cultural Investigation (3/0)** This course is designed to help students familiarize themselves with some most fundamental and critical concepts and practices in the field of cultural studies.

**F0630 Movies of Hispanic Countries (2/0)** This course is designed to introduce students to major developments of film study, by examining a number of Spanish cinemas of Hispanic Countries.

**F0859 Translation of Texts on Politics and Economy (2/2)** This course teaches translation from Spanish to Chinese and from Chinese to Spanish in the field of politics and economy. It will introduce first the general theory of translation and the skills for interpretation. Meanwhile, the professor will guide the students to practice interpretation of different occasions in Spanish and in Chinese. In the practice with CD and sound files in different occasions, students can find out the difficulties and the solutions in interpretation of Chinese and Spanish.

**F0860 Literary Translation (2/2)** The objective of the course is to enhance literary and intercultural competence of students and to develop a literary sensibility during the translation process through the tasks.

**F0699 Advanced composition in Spanish (2/2)** The focus of this course is to master writing skills at the advanced level.

**F0400 Translation Theory (3/0)** This course deals with theories of translation. It is a survey of the major theories of translation and theoretical texts.

**F0411 Contemporary Artistic Movements of Spain (0/2)** This course will present the development of artistic movements in Spain and lead to an appraisal of the influence of Spanish modern thinkers.

**F0727 Masterpieces of Spanish Literature (2/2)** This course presents several important historical events and analyzes the historical background and impacts presented in the Hispanic literary works.
F0700 Evolution of Hispanic cultures (0/2) The conceptual objective of the course is to study the evolution of the society, the economy and the conceptions on political organization, as well as the progression of the philosophical, spiritual and cultural ideology of the Hispanic countries, within a schematic historical frame of reference, attached to the Western civilization to which it belongs, briefly examining and comparing the essential aspects of its parallelisms and divergences with respect to the Eastern culture.

F0763 Topics on Hispanic World (0/2) The objective of this course is to present, from different perspectives, the culture, languages and societies of Spanish speaking countries.
DEPARTMENT OF FRENCH

Degrees Offered: B.A., M.A.

Chair: Yang, Shu-chuan (楊淑娟)

The Department

The Department of French has long been devoted to promoting student's language ability and knowledge as well as to introducing methodology. Evaluated as one of the best French departments in Taiwan, the Department launched a partner relationship with France-Comte University in 1989. Twenty juniors were sent to this university for the first time in 1994. Since then, this one-year Junior Year Abroad Program has been implemented for 14 years, and has broadened the Department’s relationships with the universities of Lyon III, Louvain-la-Neuve, Haute École-Léonard da Vinci, Paris IV and Nice, which have also been sending students to Tamkang on exchange programs. These young European students cement the friendship already existing between our institutions, and contribute tremendously to the learning environment of the French language for our students.

Always eager to update our teaching techniques, we undertake a curriculum reform with the goal of preparing our students for the DELF (Diplôme d'Études de Langue Française) and the DALF (Diplôme Approfondi de Langue Française), considered as an international reference of excellence.

We are also working on the Internet front, constructing a permanent infrastructure for our web page content, and establishing numerous links to the relevant French web pages. A project consisting of the indexing of French sources will allow our faculty and students to use more efficiently this wealth of information.

In the future, we will enhance distance learning capabilities of our department, in hopes of adapting to an increasingly digitalized world without departing from our foremost duty: teaching French.

Master’s Program

The Master’s Program of French was established in 2002. It aims to nurture specialists in French studies, promoting the culture exchange between Taiwan and France.

Faculty

Professors
Boileau, Gilles (徐鵬飛); Yang, Shu-chuan (楊淑娟); Liang, Zong (梁蓉); Tsai, Shu-ling (蔡淑玲);
Chang, Kuo-lei (張國蕾); Wu, Hsi-deh (吳錫德);

Associate Professors
Chu, Chia-jui (朱嘉瑞); Han, Bernard (侯義如); Hsu, Hun-hui (徐琿輝);
Kerkalli, Mohamad (葛浩德); Lam, Xuan-minh (林春明); Lee, Pei-wha (李佩華);
Monier, Alain (孟尼亞); Sun, Su-er (孫素娥); Vauthier, Pierre (儲善平); Yu, Liang (喻樑);
Jeng, An-chyun (鄭安群)

Assistant Professor
Chen, Li-chuan (陳麗娟)

Degree Requirements

1. Requirements for a degree of B.A. in French:
   Completion of 140 credits of courses, including 105 credits of required courses and at least 21 credits of elective French courses.

2. Requirements for a Master’s degree in French:
   Completion of 32 credits of courses and 4 credits of Seminar. Students are also required to submit a written master’s thesis completed under the supervision of a faculty member and pass an oral examination.

2010-2011 TAMKANG UNIVERSITY CATALOG
Course Descriptions

Undergraduate Courses

A0409 French Translation I (2/2) Using French chansons, actuality, and fables, this course discusses basic problems of translation from Chinese into French.

A0410 French Translation II (2/2) This course deals with intermediate problems of translation from Chinese into French through the syntax and structure of sentences and help students understand the differences between Chinese and French.

A0423 History of French Literature II (2/2) This course presents French literature by a systematic study of French writers, celebrated philosophers, the history of France and French literary development.

A0424 Introduction to the French Literature (2/0) This course aims to provide students with a general overview of French literature in aspects of historical background and knowledge of key events/characters/terms, which had monumental impacts on its transformation into modern theories in French Literature.

A0429 Selected Reading in French Literature (0/2) This course offers a systematic study of French writers, with an emphasis on individual works.

A0435 French Drama (2/2) This course introduces the development of French drama, appreciation of individual works and practice in staging through the study of French drama.

A0439 French Conversation I (4/4) This course aims to train students to speak basic French through conversation practice and familiarize them with oral expressions through practical exercises.

A0440 French Conversation II (2/2) This course aims to train students to speak intermediate French through conversation practice and familiarize them with oral expressions through practical exercises.

A0441 French Conversation III (2/2) This course aims to train students to speak advanced French through conversation practice and familiarize them with oral expressions through practical exercises.

A0442 French Conversation IV (2/2) This course aims to train students to speak fluent French through conversation practice and familiarize them with oral expressions through practical exercises.

A0449 French Language Laboratory Work (1/1) This course teaches elementary French grammar with writing practice in short sentences and articles, and helps students acquire a basic knowledge of linguistics, intonation and pronunciation.

A0583 French Commercial Correspondence (2/0) This course aims to help students gain a basic understanding of commercial French through the texts, multimedia, commercial letters, and the Internet.

A0906 French Movies and Literature (0/2) This course discusses the interrelationship between French movies and literature via French film masters’ classical masterpieces. This course also helps students understand and analyze different viewpoints through movies.

A1006 French Grammar I (2/2) This course deals with the development of fundamental French grammar and practices in writing short sentences through an analysis of sentence structures.

A1050 History of French Literature I (2/2) This course presents French literature by a systematic study of French writers, the history of France, and French literary development.

A1055 French Grammar II (3/3) This course deals with the development of intermediate French grammar and practices in writing long sentences through an analysis of sentence structures.

A1056 French Composition I (2/2) This course teaches basic composition skills through the practice of composition texts. Students will learn how to make complete and logical sentences and write
compositions.

A1057 French Composition II (2/2) This course teaches advanced composition skills through the practice of composition texts. Students will learn how to make complete and logical sentences and write compositions.

A1434 French Grammar III (2/2) This course deals with the development of advanced French grammar and during the class students will practice the use of verbs in proper tenses.

A1530 Theory and Practice of French Teaching (2/0) This course aims to help students understand how to teach French through related topics like pronunciation, diction, grammatical rules, and French teaching methods.

A1853 Simultaneous Interpretation (2/2) This course offers interpreting practices on various topics by small groups on the basis of actual ability, starting from Chinese to French and moving into both directions. Theory, experiences sharing, corrections and advice will be given.

F0247 Journalism in French (0/2) This course includes extensive practice in newspapers, writing, radio, TV reporting, public relations, and advertising.

F0377 French History of Twentieth Century (0/2) This course aims to introduce the formation, the special character and the spirit of contemporary France in 20th century, by presentations of different aspects like political, economic, social and cultural activities, etc.

F0379 Contemporary French Thoughts (2/0) This course will cover famous French philosophers: Henri Bergson, Jean-Paul Sartre, Jean Baudrillard, Roland Barthes, Georges Bataille, Michel Foucault, and Gilles Deleuze.

F0646 French Correspondence and Composition (2/2) This course aims to enhance students’ composition ability by different forms of correspondence like personal, administrative and commercial, emphasizing also the cultural aspects of everyday life in France.

F0705 French Reading and Writing I (4/4) This course deals with elementary grammar and vocabulary of French and helps students improve their reading skills through extensive reading in French.

F0706 French Reading and Writing II (4/4) Through extensive reading, this course deals with intermediate grammar and vocabulary of French and helps students improve their reading skills.

F0707 Arts and Literatures from French-speaking Countries (2/0) This course aims to offer an introduction of the origin of French language, French-speaking countries, literature and arts, the expansion of French, French-speaking countries and French in international organizations, etc.

Master's Program

F0225 French Writing (I) (2/2) The objective of this course is to introduce students to the complexity of the text and provide them with an in-depth knowledge for the understanding and production of written French.

F0226 French Writing (II) (2/2) This course introduces students to the French sociological and historical schools, with explanations of key concepts and their application to French studies.

F0227 Cultural Policy in Contemporary French Society (3/0) This course teaches the beauty and the intricacies of French literature in the 16th and 17th centuries, a very important part of French cultural background.

F0232 French Novels (3/0) This course is about the application of the structuralist method to French literature of the 19th century.

F0233 Mass Culture Study (0/3) This course deals with the different aspects of the “popular theatre”
movement since its inception by R. Rolland and its proponents to this day, in France and Europe.

**F0235 Image Studies (3/0)** The aim of this course is to present the tendencies and problematics of French modern cinema, since the nouvelle vogue, with special emphasis on contemporary controversial works, theories and criticism.

**F0237 Contemporary French Thoughts (3/0)** This course will present the development of philosophy in France since Bergson, Sartre and lead to an appraisal of the influence of French modern thinkers.

**F0312 Methodology and Theory (0/3)** This course is a survey of major theories of literary criticisms such as semiotics, psycho-analysis, feminism, etc., in the context of recent debates among French intellectuals, particularly with regard to the modernism/ post-modernism controversy.

**F0319 Theory and Practice of Translation (0/3)** This course deals with theory and practice of translation, more specifically with the translation of literature and theoretical texts.

**F0605 Chair Lecture on French Literature and Culture (3/0)** This course aims to help students become familiar with French literature, culture and its contemporary thought by arranging a series of talks by eminent scholars.

**F0606 Disaster and Representation (3/0)** The relationship between disaster and representation fundamentally cuts across generic boundaries, blending art and politics, fiction and reality. This course questions these generic limits as well as the relation between image, text and body via works by Beckett, Rousseau and contemporary theorists, and asks whether a new form of intimacy and compassion beyond the humanitarian structure of cynicism and pity is possible.

**F0607 Study in Foucault (3/0)** This course will present some works of the French philosopher Foucault, through a reading of texts dealing with the technique of power, “panopticism” and the possibilities of applying his theories to the media age.

**F0664 Techniques of Communication III (2/2)** The goal of this course is to teach students how to express themselves efficiently, and to improve their ability in French communication. In addition, students planning to study at Lyon University will need to specifically strengthen their French expression techniques.

**T0100 Introduction to Philosophy (0/3)** This course will present the most important moments in French history with regard to political structures, history of thoughts, culture, and art.
DEPARTMENT OF GERMAN

Degree offered: B.A.

Chair: Chung, Ying-yen (鍾英彥)

The Department

German studies at Tamkang began in 1963 as a German program within the Department of Western Languages and Literatures. In 1975, the program became an independent department. Since 1984, students of the German Department have had the opportunity to participate in summer courses in Germany. In 1994, the Department established the Junior Year Abroad program. Since then, about one third of all students have spent their junior year as students at Bonn University, Germany.

During the first two years of the four-year program, a strong emphasis is given on building a solid foundation in practical German. In their junior and senior years, students choose their specialization according to their interests and career plans. Some pursue a classical humanities syllabus in German literature and cultural history; others who develop a deeper interest in one particular author or issue can pursue their interest in individually designed tutorials. Another option of specialization prepares students for a career in the business environment. The Department offers courses in business German, German-Chinese interpreting and, in coordination with a course offered at the college level, in intercultural communication.

The German Department considers each student an individual with particular interests, a more or less articulated career plan and personal circumstances to deal with. The overall policy of the department may be characterized as customized internationalization. Students have the opportunity to organize their studies at the Department according to three different modules, each of which offers a study experience internationalized in a different way.

Standard Module: Students complete a four-year program at Tamkang University. They are encouraged to participate in one or more summer courses in Germany. The Department is doing its best to include a localized form of internationalization into this module by providing opportunities for students to develop contacts with the German community in Taiwan.

Internationalized Module 3 Plus 1: Students participate in the Junior Year Abroad program. They study for three years at Tamkang University and one year abroad. There are two versions of this module. Students may spend their junior year either as program students at the University of Bonn or as exchange students at one of our partner universities in German-speaking countries. Presently, exchange programs have been established with the University of Bonn, the University of Cologne, and the University of Vienna. Arrangements with other universities are under preparation. Exchange students usually go to their host universities either individually or in groups not larger than three.

Internationalized Module 3 Plus 3: This module is designed for students who plan to study abroad for an advanced degree after graduation from Tamkang. Students participate in the exchange version of the Junior Year Abroad program. Their work as exchange students will be arranged in such a way that it facilitates study for an advanced degree later at the host university. Upon graduation from Tamkang, students return to the host university to participate in an M.A. program. Due to their work during their stay as exchange students, the time frame necessary for completing the program will be reduced. The time required hinges upon the qualifications of the student and the regulations of the particular university. A time frame of two years may be realistic. Students interested in this module are advised to talk to the chair as early as possible.

Faculty

Professors
Chung, Ying-yen (鍾英彥); Lai, Li-show (賴麗琇); Düssel, Reinhard (狄殷豪)

Associate Professors
Wei, Jung-chih (魏榮治); Schwabbauer, Monika (施莫尼)

Assistant Professors
Bednarsch, Roland (羅蘭); Chang, Hsiu-chuan (張秀娟); Ke, Li-Fen (柯麗芬)
Degree Requirements

Requirements for a degree of B.A. in German:
Completion of 140 credits of courses, including 105 credits of required courses and 35 credits of elective courses.

Course Descriptions

A0098 Intermediate German Reading (4/4) This course emphasizes building up students' reading ability by reading different types of articles and analyzing the constructions of sentences to expand their vocabulary and familiarize themselves with the grammar they have already learned.

A0320 Mythology and Theology (2/2) This course introduces Greek and Roman mythology and Bible reading to acquaint students with the social manners and spiritual world of Western civilization to help them better understand related fields.

F0644 German Juvenile Literature (2/2) This course is an introduction to German fairy tales, folklore, and picture stories.

A0772 German Composition I (2/2) This course is an introduction to German composition for Chinese students, who are new to this area. In addition, an emphasis is placed on the correct semantic use of vocabulary in compositions. Students will write a number of compositions.

A0773 German Composition II (2/2) This course emphasizes the use of written German to express personal experiences and the basic form of the research essay. Students will learn to collect information on issues of their choice from the German pages of the Internet, take notes, organize their notes, and present the information collected in short essays.

A0774 German Composition III (2/2) The main objective of this course is the writing of German essays and term papers. Students will also become familiar with a wide variety of text types and writing styles ranging from practical purposes to creative writing. Academic writing is also introduced.

F0804 German-Chinese Translation (2/2) This course helps students learn and practice theories and techniques in translation from German into Chinese. Students will be given numerous examples and exercises.

A0782 German-Chinese Translation II (2/2) This course focuses on problems of translation and on analysis of typical difficulties in translation.

A0786 History of German Culture (2/2) This course offers a comprehensive survey of German cultural history, including such periods as Germanic, medieval, religious revolution, baroque, enlightenment, classicism, romanticism, realism and the 20th century.

F0603 History of German Literature I (2/2) This course gives an overall view of the trends and epochs of German literature from the Chivalric period to 1945, and studies those representative works of each period or trend as well as various literary approaches, and further compares some of them with Chinese writers.

F0604 History of German Literature II (2/2) This course gives an overview of the trends and epochs of German literature from Medieval Literature to 1945 and studies those representative works of each period.

A0796 German Conversation II (2/2) In this course, students are taught to make conversations in the German language with a special emphasis on grammar and colloquial use of the German standard language.

A0797 German Conversation III (2/2) This course provides conversation training at an advanced level of content based conversations to develop fluency and conversation strategies. Also, students will expand their vocabulary.
A0800 German Language Laboratory I (2/2) This course aims to improve students' ability in pronunciation, sounding out sentences and articles correctly, and also in their listening and speaking ability.

A0801 German Language Laboratory II (1/1) This course is a continuation of German Language Laboratory I with an intention to further improve students' ability in speaking and listening ability in German.

A1508 Journalistic Reading and Writing in German (0/2) This course offers practice in reading German newspapers, teaches major elements of the language of journalism and provides an introduction into feature news writing. It will also help students get acquainted with the German-speaking world by making use of different media and styles of reporting. Background information in various areas, among them politics, economics and education, will be provided to facilitate the understanding of what is being presented in the media.

A1513 Tourism in German (2/0) The main objective of this course is to help students to have a better understanding of the usage of the German language in tourism industries in order to expand the horizon of student’s career opportunity after their study. In this course, besides the usage of language, adequate method of communication in tourism industries will also be taught.

A1514 German Business Letters (2/2) This course is an introduction to German Business Letters: Structure and Form, Inquiry, Price, Quality, Quantity, Packing, Market, Offer, Order, L/C, Documents, Insurance, Shipment, Draft, Payment und Claim.

A1516 Basic German Grammar (4/4) This course introduces the fundamental German grammar with an emphasis on the sentence patterns and basic grammar to help students build a good basis of German study.

A1517 Basic German Reading (4/4) This course aims to promote students in understanding the German sentences so as to strengthen their writing ability through basic sentence patterns and interesting articles.

A1569 German Conversation I (4/4) This course aims to improve students' ability in listening and speaking German through practice of listening to language tapes, group discussion and class communication.

A1669 Business German (2/2) This course focuses on reading and writing texts of business nature: to help students understand some special traits in business transaction, the procedures of international trade, and the process in doing business like inquiries, offers, quotations, contracts, B/L opening, etc.

A1824 Secretary Practice (0/2) This course introduces the linguistic and other skills in a German office environment, emphasizing the procedure, character and function of secretary work. It also provides special knowledge and techniques of being a secretary, ability to deal with problems, and ways to communicate and get along with others.

F0052 Intermediate German Grammar (2/2) This course aims to help students to study and understand German grammatical rules, especially those particularly difficult for Chinese-speaking students. Students are required to take Basic German as the prerequisite.

F0112 Chinese- German Interpreting (2/0) This course intends to help students develop competency in oral interpretation, situations for oral interpretations (protocol routine, weather, dinners and parties, Taiwan agriculture, visiting places of Interest, culture in Taiwan, on international economic relations and foreign trade, Taiwan industry, politics in Taiwan).

F0238 Practice in German grammar. (0/1) The course emphasizes aspects of German grammar notoriously difficult to Chinese-speaking students. Dedicating more time to such aspects in their first year, students will acquire a basis in German grammar more solidly than the regular grammar course alone could provide.

F0239 Drama (2/2) This course offers a historical as well as practical introduction into the world of
German drama and theatre. Part of the course is the production of one play each term.

**F0347 International Trade (2/0)** This course is designed for students to learn some special traits in business transaction, the procedures of international trade, and the process in doing business.

**F0639 Comparative Studies in Chinese and German Culture (0/2)** This course offers an introduction to cultural policy situation, economy today, Chinese/German youth (A generation at the turning points of trends), the educational system, research and science, Chinese/German women, press, radio, television and cultural scene.

**F0721 Perspectives on German-speaking Countries (2/0)** The purpose of this curriculum is, by inviting experts from various fields to lecture regarding their views of German-speaking countries, to help our freshmen to have a better understanding to German language and culture, in order to help their study.

**F0795 Advanced German Conversation (2/0)** This course is orientated at the requirements of the B1-Levels. Therefore in several training meetings, the abilities of speaking and listening comprehension are trained in accordance with the test format of the certificate examination.

**F0797 Exam Preparation "Certificate German B1" (0/2)** This course aims at helping students to pass the Zertifikat Deutsch (ZD) examination. They master the main grammatical structures and are capable of understanding and taking part in routine conversations. They are also capable of describing simple matters orally and in writing, and understanding texts on general topics.

**F0798 Introduction to Germanic Linguistics (0/2)** This course focuses on knowledge acquisition of the function and mode of the German language. It also trains students in basic skills in handling linguistic issues.
DEPARTMENT OF JAPANESE

Degrees Offered: B.A., M.A.

Chair: Ma, Yaw-huei (馬耀輝)

The Department

The mission of the Department of Japanese is to offer a variety of flexible courses and programs to meet a variety of social needs, and educate students to be highly qualified citizens with advanced language skills and a global sense.

The Department of Japanese, originally the Department of Eastern Languages, was established in 1966, and has been offering courses on the Japanese language, economy, politics, and cultural study of Japan. Because of a rapid increase of students studying Japanese and Japanese culture and society at Tamkang University, the Department started to offer two freshman classes in 1973. In 1985, the Department of Eastern Languages was renamed the Department of Japanese. With a continuous growth of student number, the Department of Japanese presently accepts about 240 undergraduates every year in three day-time classes (about 180 students) and one night-time class (about 60 students). The Department has also been offering the M.A. degree since 2006.

The Department of Japanese was the first department at Tamkang University to set up one-year study abroad programs with partner universities in Japan. Every year, approximately fifty students participate in the programs and study in Japan for one academic year.

The Department of Japanese has a number of Japanese textbooks, academic journals, audio and video teaching materials about Japanese and Japanese culture and society. Students and faculty can watch Japanese live TV programs at any time by a new satellite system. Students can also freely use the Internet web-browsing and Japanese word-processing software any time with computers on the new Japanese operating system.

Faculty

Professors Emeritus
Chen, Bo-tao (陳伯陶); Lin, Pi-shoung (林丕雄)

Professors
Tzeng, Chiou-guey (曾秋桂); Ochiai, Yuji (落合由治)

Associate Professors
Chang, Chong-ling (張瓊玲); Hsiao, Pi-chan (蕭碧盞); Huang, Shu-ching (黃淑靜); Liou, Chang-huei (劉耀輝); Peng, Chuen-yang (彭晉陽); Saito, Shiro (齋藤司良); Sun, Yin-hua (孫寅華); Chung, Fang-chen (鍾芳珍); Chen, Shan-long (陳山龍); Chiu, Pai-hua (邱百華); Ma, Yaw-huei (馬耀輝); Chiang, Wen-shun (江雯薰)

Assistant Professors
Lin, Chi-wen (林寄雯); Ma, Yaw-huei (馬耀輝); Takatsu, Masateru (高津正照); Tomita Akira (富田哲); Lin, Chin-hwa (林青樺); Tien, Shih-min (田世民); Shi, Hsin-Yu (施信余); Wang, Mei-ling (王美玲); Liao, Yu-Ching (廖育卿); Lee, Wen-ju (李文茹); Uchida Yasushi (內田康); Wang, Chia-lin (王嘉臨)

Lecturers
Kuroshima, Chiyo (黒島千代); Chiu, Wen-san (邱文三); Chung, Tze-hsin (鍾慈馨); Guh, Jiin-fen (顧錦芬); Kawamura, Hiroyuki (河村裕之)

Degree Requirements

The Department of Japanese offers two programs for both B.A. and M.A. degrees.
1. Requirements for a B.A. degree:
   Completion of 142 credits of courses, including 120 credits of required courses and 22 credits of elective physics courses.

2. Requirements for an M.A. degree:
   Completion of 32 elective credits of courses. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

Course Descriptions

Undergraduate Courses

**A0178 Japanese Composition I (2/2)**
To improve students' writing skills in Japanese, this course offers an introduction to basic Japanese writing styles by analyzing and explaining contemporary Japanese phrases, clauses, and sentence structures.

**A0179 Japanese Composition II (2/2)**
This course aims to strengthen students' overall writing skills by discussing and explaining contemporary Japanese.

**A0190 History of Japanese Literature (2/2)**
This course offers an introduction to the history of Japanese literature. It explains and discusses selected Japanese works of each era in the history of Japanese literature.

**A0197 Selected Readings in Japanese Literature I (2/2)**
This course offers an introduction and appreciation of renowned modern and classical Japanese novels and selected writings.

**A0198 Selected Readings in Japanese Literature II (2/2)**
This course focuses on appreciation of renowned classical Japanese novels and selected works. Modern Japanese works are not included.

**A0212 Japanese Politics (2/2)**
This course offers an introduction to contemporary Japanese politics. It deals with and discusses the modern political systems in Japan starting in the Meiji era.

**A0235 Introduction to Japanese (2/2)**
This course explains and analyzes Japanese from a linguistic perspective. General information on Japanese sound and structural features are explained in the class.

**A0239 History of Japan (2/2)**
This course traces and explains Japanese history, with a special reference to Chinese history and culture.

**A0249 Japanese Rhetoric (2/2)**
This course explains a basic and intermediate level of Japanese rhetoric. Students also practice composing a variety of Japanese poems with different styles in and out of the class.

**A0254 Japanese Conversation I (4/4)**
Conducted in small groups, this course aims at cultivating students' interest in Japanese culture and society, and reinforcing students' basic speaking and listening skills in Japanese.

**A0255 Japanese Conversation II (4/4)**
This course trains students to be more ready speakers in Japanese on various topics. Students are strongly encouraged to discuss various social and personal topics in Japanese.

**A0256 Japanese Conversation III (2/2)**
This course aims at strengthening students' competence of listening and speaking of modern Japanese.

**A0260 Japanese Language Laboratory I (2/2)**
This course is language laboratory drills in basic Japanese with a special emphasis on listening and speaking.

**A0260 Japanese Language Laboratory (0/0)**
This course offers language laboratory drills in basic Japanese, as part of the course work for Japanese Language Laboratory I and Japanese I.

**A0261 Japanese Language Laboratory II (0/0)**
This course offers language laboratory drills in
intermediate Japanese, as part of the course work for Japanese II.

**A0565 Japanese III (2/2)** This course aims to reinforce students' over-all Japanese proficiency by teaching advanced-level Japanese sentence patterns and daily language usage referring to Japanese literature.

**A0926 Reading Newspaper (2/2)** Articles of various topics including national and international issues in Japanese newspapers are introduced and explained in Japanese. Students in this course are strongly encouraged to read the selected articles and express their own opinions.

**A1104 Japanese Society and Culture (2/2)** The purpose of this course is to lead students to look at various aspects of Japanese society and culture deeply, and analyze and discuss them objectively and academically.

**A1107 Japanese Conversation IV (2/2)** The goal of this course is to enable students to communicate with more sophisticated and advanced structures and with a large vocabulary on a variety of topics.

**A1531 Teaching Japanese as A Second Language (2/2)** This course deals with basics of teaching Japanese as a second language, including course planning, production and usage of teaching materials, evaluation, etc.

**A1645 History of Japanese Philosophy (2/2)** This course deals with the development of Japanese philosophy and culture referring to Chinese and Western histories and cultures. Modern philosophy and culture in Japan are also discussed in this class.

**A1755 Japanese Word Processing (1/0)** This course deals with the input method of Japanese characters into the computer and composing Japanese documents by word-processing software on the computer.

**A1757 Business Application of Japanese (2/2)** Rules and styles of Japanese in business documents and frequently used phrases and sentences in business documents and/or letters are introduced and explained in this course.

**A1759 Research Method on Japanese Linguistics (2/2)** This course discusses how students should conduct their research on Japanese linguistics so as to help them complete their graduation research and theses.

**F0038 Introduction to Japanese Enterprise (2/2)** Developmental history, unique characteristics, various problems, and futures of Japanese enterprises are analyzed and discussed in this course.

**F0051 Japanese Translation and Interpretation (2/2)** This course offers an introduction to theories and practices of modern Chinese-Japanese translation and oral interpretation utilizing audio and visual materials.

**F0113 Japanese I (Reading) (4/4)** Fifty sounds of Japanese and their symbols are introduced and explained in this course; then basic phrases and sentences are introduced and analyzed.

**F0114 Japanese I (Grammar) (2/2)** Basic Japanese phrases and sentence structures are analyzed and discussed in this course. This course also focuses more on the grammatical features of Japanese sentences at beginning level.

**F0115 Intermediate Japanese reading (4/4)** This course teaches intermediate level of Japanese, which focuses on complex Japanese phrases and sentence structures based on the knowledge and understandings learned in Japanese I.

**F0116 Intermediate Japanese Grammar (2/2)** Stressing both explanation and discussion, this course aims to help students understand Japanese sentence structures and grammar so as to strengthen student's writing ability.

**F0270 Guidance for Bachelor Thesis (1/1)** This course offers an introduction to research methods of
studying Japanese language, culture, and society. Rules and styles for an academic thesis are also explained in the class. All senior students are required to submit a graduation thesis at the end of the final semester.
DEPARTMENT OF RUSSIAN

Degree Offered: B.A.

Chair: Chang, Ching-gwo (張慶國)

The Department

The Department of Russian was established in 1993 with the aim of developing students' language ability in the practical applications of the language, to improve their knowledge of Russian people and culture, and train them for careers in diplomacy, economic affairs, and international trade.

Faculty

Associate Professors
Krasilnikov, Leonid (柯烈尼); Chang Ching-gwo (張慶國)

Assistant Professors
Bourovtseva, Natalia (龔雅雪); Liu, Hwang-shing (劉皇杏); Su, Shwu-yann (蘇淑燕); Kuo Hsin-yi (郭昕宜); Naydina, Tatiana (那達怡)

Degree Requirements

Requirements for a B.A. in Russian:
Completion of 140 credits of courses, including 119 credits of required courses and 21 credits of elective courses.

Course Descriptions

A0693 Basic Russian I (4/4) This course offers an introduction to fundamental Russian with an emphasis on sentence pattern practice.

A0696 Basic Russian II (4/4) This course is a continuation of the study of fundamental Russian with more complicated sentence pattern practice.

A0719 Russian Composition (2/2) Features of this course include the following: Practice in basic Russian writing; analysis of grammar structures and common mistakes and practice in writing Russian paragraphs and short essays.

A0846 Basic Russian III (3/3) This course focuses on practice in reading abridged Russian novels with an emphasis on the structure of language patterns.

A0885 History of Russian Literature (2/2) As an overall review of periods and trends in Russian literature, this course studies and analyzes representative works of each period.

A0887 Russian Phonetics (2/2) Pronunciation practice of vowels, consonants, and intonation is the focus of this course.

A0911 Russian Grammar I (4/4) Fundamental Russian grammar and practice in writing short sentences are central to this course.

A0912 Russian Grammar II (3/3) This course focuses on fundamental Russian grammar, in particular, on sentence structure.

A0913 Russian Conversation I (2/2) This course focuses on practice in speaking Russian.

A0914 Russian Conversation II (2/2) This course focuses on speaking Russian on various common and special topics.
A0915 Russian Conversation III (2/2) In this course, students will practice speaking Russian on various special topics.

A0916 Russian Language Laboratory I (1/1) This course emphasizes training in listening and speaking everyday Russian with more complicated structures.

A0917 Russian Language Laboratory II (1/1) In this course, attention is given to training in listening and speaking everyday Russian with more complicated structures.

A1048 History of the Soviet Union (0/2) This course reviews the history of the state from 1917 till the present.

A1319 Contemporary Russia (0/2) This course introduces and analyzes politics, economy, society and foreign policies of contemporary Russia.

A1371 History of Russia (2/0) This course reviews the history of the Russian state from the time of formation till the beginning of the 20th century.

A1480 Introduction to Russia (2/0) This course offers a general survey of Russia with some elements from history and culture.

A1483 Journalistic Russian (2/2) This course focuses on practice in reading Russian journals and newspapers. It also introduces terminology and common structures used in Russian journals and newspapers.

A1518 Russian Conversation IV (2/2) This course trains students in speaking Russian on different special topics.

A1519 Main Course of Russian Language IV (2/2) This course is devoted to widening students' knowledge in vocabulary, grammar, intonation, reading and communication.

F0383 Oral Translation of Practical Russian (3/0) This course provides basic information on linguistic rules of everyday practice with a special focus on administrative procedures, forms of address, everyday communication, etc.

F0384 Oral Translation of Commercial Russian (0/3) This course is an advanced course in business correspondence, commercial negotiations, advertising and other aspects of business activity. Its aim is to provide students with solid knowledge of Russian business activities.

F0714 Business Russian 1 (2/2) This course provides the basics of Russian lexicology in the field of commerce. Its aim is to make students familiar with the most important requirements concerning business talk and etiquette.

F0717 Business Russian II (2/2) This course further develops the main premises of Business Russian (1). It is focused on the issues of commercial correspondence and negotiations.

F0720 Test of Russian as a Foreign Language (2/2) This course is designed to help students to prepare for the Test of Russian as a Foreign Language (TRFL), including the subjects of lexicon, grammar, listening and reading comprehensions, conversation and writing skills.

F0762 Russian Translation (2/2) This course covers practice in translation from Russian into Chinese, including an analysis of the fundamental translation problems, peculiarities of some Russian expressions and untranslatable word structures.

F0791 Advanced Russian Grammar (2/2) This course focuses on the knowledge of intermediate level of Russian grammar and syntactic usage. The purpose of the course is to provide the students with a comprehensive instruction of practical Russian grammatical forms and syntactic usages.

F0793 Introduction to Russian Culture (2/2) This course offers a general review of the development of Russian culture and fine arts from the 10th century till the beginning of the 20th century with special
emphasis on the major artistic styles and ideological trends.

**F0794 Russian Classical Short Novels (2/2)** The aim of this course is to give students an understanding of the deep structure of Russian culture by reading famous Russian literary works from the ancient period, such as Pushkin and Chehov, to modern days, including works by Paustovskiy, Bulat Okudzava and Ludmila Petrushevskay.

**F0796 Russian Classical Novels and the Screen Versions (2/2)** The aim of this course is to read and discuss the most famous Russian novels during the 19 and 20th centuries: Pushkin’s “Snowstorm,” Tolstoy’s “Anna Karenina,” “War and Peace”; Dostoevskiy’s “Crime and Punishment,” “Idiot”; Bulgakov’s “Master and Margarita,” Pasternak’s “Doctor Zhivago,” etc. Film adaptations of the novels will help students to understand the lives, the characteristics and the mind of Russian people.

**A1375 Russian Folk Song (0/2)** This course offers students an understanding of Russian song lyrics that reflect different feelings. It also aims to cultivate students’ interest in Russian music and the musical art of singing.
COLLEGE OF INTERNATIONAL STUDIES
COLLEGE OF INTERNATIONAL STUDIES

Dean: Tai, Wan-chin (戴萬欽)

Brief History

The College of International Studies was established in 1992. Its mission is to train M.A. and Ph.D. students interested in area studies and international affairs. The College consists of five graduate institutes. They are: the Graduate Institute of European Studies, the Graduate Institute of the Americas, the Graduate Institute of International Affairs and Strategic Studies, the Graduate Institute of Asian Studies, and the Graduate Institute of China Studies. All five graduate institutes offer master's programs. Additionally, the Division of American Studies (under the Graduate Institute of the Americas), the Graduate Institute of European Studies, as well as the Graduate Institute of International Affairs and Strategic Studies, offer doctoral programs. Currently, no other university in Taiwan has such extensive graduate programs in area studies as does Tamkang University. As such, Tamkang University markedly distinguishes itself in area studies.

All graduate institutes in the College are characterized by their interdisciplinary approach to scholarly study. This is reflected in the fact that many of our students come from quite diverse undergraduate backgrounds. In addition, the College encourages its students to take courses at highly touted institutions of higher learning overseas -- either as exchange students or as students seeking to transfer credits.

The College of International Studies takes pride in its many outstanding faculty members. The College is privileged to have distinguished diplomats and former cabinet members among its faculty teaching classes. The College has an ongoing commitment to ensuring excellence in both teaching and research. In partial fulfilment of this commitment, the College publishes a quarterly journal, the Tamkang Journal of International Affairs. Many of its contributors are foreign scholars. The College also regularly publishes conference papers in both Chinese and English, depending on the venue. The time-honoured European Documentation Centre has been highly instrumental in strengthening the academic resources of the Graduate Institute of European Studies.

Mottos and Goals

Our mottos and goals are as follows: Integrate All Resources Available, Organize the Support of All in Realizing Our Common Goals, and Advance the Distinguishing Strengths of the College.

Future Development

The College is in the process of expanding dual-degree partnership opportunities for its graduate students. Every graduate institute under the College has been offering and will continue to offer some form of English-instructed courses. In general, students, upon completion of 24 credits, will have their Master's degrees conferred upon them. The College increasingly attracts degree students from overseas and this trend is expected to continue in the future.

Course Descriptions

A1092 International Media Study (2/0) “The Public Opinion War” has developed into a mainstream issue of war strategy study between Taiwan and Mainland China since it was created in China in 2003. Our seminar analyzes the definition and theory construction of the idea of "The Public Opinion War" with the beginning of international communication theory, citing a huge amount of practical cases of China in class to put theory into practice.

A2219 Issues of International Education (0/2) This course explores the following issues: 1) education justice and education opportunity; 2) social mobility and SES; 3) textbooks of international cooperation; and 4) education and employment. Each issue will be divided into 4 steps: theory and concept, definition; the present situation in Taiwan; two case studies of foreign countries, empirical data required; and conclusions. Students are required to participate in all discussions and presentations. Discussion issues are subject to change and additional issues are acceptable.
B0230 International Economy (2/0) The purpose of this course is to introduce basic knowledge of the relationship among East Asian countries and Japan. In the first half-semester, we discuss the regional economic development of East Asian countries and Japan. In the second half-semester we shall cover the impact of Chinese economy on the East Asia, and the new wave of bilateral integration i.e. FTA in Asia after 2000.

M0674 Political Economy (2/0) This course is designed to have the students as the central figures at play, with the teacher’s heuristic role in the background. The contents of this course cover the theories, institutions, and relationships that characterize International Political Economy. It will review how politics and economics collide in the global context, and how states and markets affect our everyday lives. It will also evaluate how the mainstream and critical perspectives affect the approaches to problem solutions in a variety of global problems such as hunger, global warming, and economic crisis.

T0109 International Public Law (0/2) The international public law is a subject related to the legal order in the international community. This course provides students with basic international rules such as UN Charter, Vienna Convention, WTO Rules. The goal of this seminar is to enlarge students’ global vision and basic legal knowledge.

T0130 Contemporary International Relations Theory (2/0) This seminar emphasizes the most important International Relations Theory in the last 40 years, including idealism, realism, liberalism, etc. The instructor would introduce some debates between the political scientists.

T0530 The UN and International Organizations (2/0) This course studies international organizations in history, theory and practice, in particular the United Nations (UN). The first part of the course examines major theories, intellectual roots, and analytical approaches to explore the roles, limits, and origins of international organizations. The second part is concerned with the past, present, and future of the UN. We will discuss significant issues such as the failed experiment of the League of Nations, UN system of collective security, the basic principles and structure of the UN, UN activities in the areas of peaceful settlement of disputes, and the assessment of UN peacekeeping operations.

T0531 Global Management (0/2) Globalization is a world trend. What is global standard? What is American standard? How do Japanese companies cope with the globalization challenge? This course will discuss Japanese global strategies, and then compare these strategies with American ones.

T0532 Geopolitics (0/3) Geopolitics is the study that analyzes geography, history, and social sciences with reference to spatial politics and patterns at various scales (ranging from the level of the state to international). It examines the political, economic and strategic significance of geography, where geography is defined in relation to the location, size, function, and relationships of places and resources.

T0533 Introduction to Asia-Pacific Economic Development (2/0) Introduction to Asia-Pacific Economic Development.

T0536 Problems of World Human Rights (2/0) This course focuses on the discussion of human rights of ICCPR.

T0537 Development of Globalization (3/0) Undersating the beginning, current situation and future development by reading, discussion, written and oral reports.

T0538 International English News Analysis (2/0) This course offers an analysis of international news which may be political, economic, scientific, or cultural in nature. The course consists of background lectures, cultivation of critical thinking expressed in commentary writing, class discussions, and a research paper.

T0890 Modern Britain And The World : 1945-2010 (2/0) In 1945 Britain was victorious but exhausted, trying to project power worldwide and establish the “Welfare State” at home. In 2010 the UK is a medium ranking European power heavily engaged in military operations overseas, pulled between the US and the EU, a major financial and media centre and committed to testing targets to reduce its carbon dioxide contribution to global warming. The course aims to analyse the transition with an emphasis on international themes, through lectures, discussion of readings of selected texts and short presentations by students.
T0891 Australia And The Asia-Pacific Region (2/0) The aim of this course is to study the development experiences of Australia and the Asia-Pacific countries, and their international relations. The course will be mainly conducted in English. It covers 5 parts: (1) Emergence of Australia and Changes in Foreign; (2) Australia and Giant Countries of U.S.A., China and; (3) Australia and East and Southeast Asia (esp. Indonesia); (4) Australia and the South Pacific ;(5)APEC and Australia as an Asia-Pacific Regional Power.

T0892 Advanced English (2/0) This course will help students to strengthen their English language skills. Students will acquire skills of tackling grammar, structure, syntax according to the context of English reading and syntactical and structural exercises. Through the course, students will enhance their competitiveness in future careers in terms of English communication abilities and skills.

T1138 Transformation of Asia-Pacific Economies and Globalization (0/2) This course aims to study economic development and structural transformation of Asia Pacific economies in the context of global change. East and Southeast Asian economies follow the “flying geese” pattern of development which is related to stages of industrialization from light industries to more technology intensive industries, accompanied by accelerated trade, FDI, and technology transfer. The most important development in this process is the increasing degree of structural interdependency of industries across countries, developed over last few decades. In class we will adopt country case studies and also analyze various development issues and policies.
GRADUATE INSTITUTE OF THE AMERICAS

Degrees Offered: M.A., Ph.D.

Chair: Chen, Hsiao-chuan (陳小雀)

The Institute

The Institute of American Studies and the Institute of Latin American Studies, established respectively in 1973 and 1989, are recently integrated into the Institute of the Americas in 2009. With the integration of the whole America, the Institute covers a broader arena for the students to explore. As a unique institute of its kind, the new Institute of the Americas will keep its tradition of training well-prepared persons for the country and play an important role in promoting Taiwan’s research on the affairs of the West Hemisphere.

The MA program of the Institute provides intensive and varied courses in history, philosophy, politics, international affairs, economy, and social and cultural issues of the West Hemisphere and also offers training in diplomatic and trade affairs. Meanwhile, the Section of American Studies offers a Ph.D. program too for the students who graduated with an MA in fields related to American Studies.

Faculty
Division of American Studies

Professors
Tai, Wan-chin (戴萬欽); Chen, Edward I-hsin (陳一新); Trimarchi, Anthony (崔馬吉)

Associate Professor
Kleykamp, David (柯大衛)

Assistant Professor
Chan, Mignonne Man, jung (詹滿容)

Professors Emeritus
Lee, Thomas B. (李本京); Chen, Philip Ming (陳明)

Chair Professor
Chen, Stephen (陳錫蕃)

Division of Latin-American Studies

Professor
Pérez, Francisco Luis (白方濟)

Associate Professors
Wang, Hsiu-chi (王秀琦); Kung, Kwo-wei (宮國威); Chen, Hsiao-chuan (陳小雀)

Professor Emeritus
Hung, Hui, Juan (熊建成)

Degree Requirements
Division of American Studies

1. Requirements for a Master’s degree in Arts:
Completion of 33 credits of courses. A comprehensive examination is required before the passage of the proposal review. Students are also required to submit a written master’s thesis completed under the supervision of a faculty member and pass an oral examination.

2. Requirements for a degree in Ph.D.:
Completion of 30-36 credits of courses. Students are also required to pass a qualifying examination, publish at least one research paper in an academic journal, submit a written doctoral dissertation completed under the supervision of a faculty member, and pass an oral examination.

Division of Latin-American Studies
Requirements for a Master's degree in Social Sciences:
Completion of 33 credits of courses. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

Course Descriptions
Division of American Studies

Master’s Program

**T1249 American History and Civilization to the Civil War (3/0)** This is a survey course beginning with Columbus’ discovery of America and ending with the 19th century Civil War era.

**T1384 Challenges to American Political Culture (3/0)** This course features a critical investigation of recent challenges to America’s conventional values and political culture. The course focuses on “politically correct” issues such as language censorship and multiculturalism. In addition, it examines a troubled legal system, problems of alienated voters, and the distressful triumph of subjectivism and ethical relativism in both education and politics.

**M0216 American Foreign Policy (3/3)** This course introduces the theories of international relations. Students will study the origin, principles and practices, administration, policies, and historical events in policy-making from President Washington to the present. It also assesses American power and responsibility today.

**T0067 Social Science Research Methods (3/0)** This course trains students in research methodology of social sciences, observing social phenomena, and explaining social issues. By reading relevant materials and participating in discussions, students will develop independent study abilities.

**T0270 American Founding Fathers and Democratic System (2/0)** This course surveys America’s founding fathers and democratic system.

**M0213 American Judicial System (3/0)** The course provides students with a general introduction to American legal system and covers the basic subjects of American law. Moreover, students will also learn how to read legal cases and analyze legal problems under American legal system. Finally, students are expected to have a better understanding of American legal system in theory and in practice.

**T0396 Introduction to Famous American Trials (3/0)** Short readings & discussions of famous trials in American history such as the Salem Witchcraft Trials of 1692, the Harvard Medical School Murder Trial of 1850, the Abraham Lincoln Assassination Trial of 1865, the Leopold & Loeb ‘Perfect’ Murder Trial of 1924, the Lindbergh Kidnapping Trial of 1935, the Alger Hiss & Rosenberg Trials of 1949-51 for spying & stealing Atomic Bomb secrets, the Bernhard Goetz Self-Defense Murder Trial of 1987, the O.J. Simpson Murder Trial of 1997, etc.

**T0907 Globalization & U.S. Roles in International Organizations (2/0)** The contents of this course will firstly examine the dialectics of globalization in terms of homogeneity and heterogeneity. It will then explore how the United States exercises its military, economic, political and ideological leadership
in international organizations, and evaluate how the U.S. should prepare for new challenges of an evolving new world order. Finally, the issues of energy security & climate change will be reviewed as cases for policy-making challenges ahead.

**T0916 Selective Works on U.S. Foreign Policy in the 21st Century (3/0)** This course is aiming at assisting those graduate students, who did not have undergraduate study in international politics and national security affairs, in their understanding of American foreign, defense and national security policies. The course will use numerous U.S. official documents and statements to guide the students from the establishment of the republic through the post-Cold War years, and to highlight the key issues that shaped American foreign and defense policies.

**Ph.D. Program**

**T0793 U.S. Financial Markets (3/0)** This course offers a survey of U.S. financial markets beginning with the five major financial markets, including the stock, bond, money, futures, and options markets. Each market is investigated in terms of its institutional structure and the pricing of its products. A short history of each market will also be given with emphasis on commercial, hedging, and speculative functions. In addition, the course considers commercial and central banking, the forex market, the forward market, as well as the insurance and real estate markets. Finally, students will be introduced to interest rate swaps, FRAs, and mortgage backed securities.

**T0365 U.S. Policy towards Taiwan (3/0)** Analysis of US policy on Taiwan and interrelated China Relations; The Triangular Interactions.

**T0492 U.S. Foreign Policy toward East Asian Countries (3/0)** This course is aimed to study the details of US political and military activities in the East Asian Area.

**T0823 Advanced English for Scholarly Writing (2/0)** This is an advanced course dealing with the proper writing of scholarly papers and books in English. The course also provides a clear understanding of the overall nature of academic research. All aspects of scholarly writing and publishing are considered including ethics, logic, style, presentation, referencing, and review.

**T0904 U.S. Social Issues (3/0)** The contents of this course will firstly explore the American core belief and value system of evangelical-capitalist social fabrics, and the unsettling challenges against it. It will then assess how the contending approaches bring about diverse debates and concerns over issues.

**T0909 Crisis of American Hegemonic Leadership and Methodology (3/0)** This course is an introduction of U.S. hegemonic leadership in the global political economy. Methodology will be offered during the two semesters so that students can learn how to write readable term papers. It is expected that students of the sequential courses will be able to develop a reading and writing ability as well as a creative and independent way of thinking in future studies.

**T0910 American Governance and Methodology (3/0)** This course is an introduction of American Governance and Politics. Methodology will be offered during the semester so that students can learn how to write readable term papers.

**Division of Latin-American Studies**

**T0598 Academic Review & Analysis of Events of Latin America (3/0)** This course provides readings and discussions of articles by masters of Latin American studies with an emphasis on political, economic, and social issues.

**T0604 Ancient Latin American Civilizations (2/0)** This course focuses on a general knowledge of ancient American cultures, including the enigma of the first Americans, three of the most advanced ancient civilizations in the Americas-- the Mayas, the Aztecs, and the Incas-- El Dorado, and some minority tribes in the Amazonas jungles.

**T2344 Latin American Cultural and Social Movements (3/0)** This course observes the origins,
nature, and results of major cultural and social movements in Latin America.

**T2556 Modernization Process & Foreign Relations in Latin America (0/3)** This course principally studies and analyzes the strategies of modernization in Latin American countries with a focus on the international relations among Mexico, Argentina, Brazil, Chile, Venezuela, Panama, and Cuba.

**T0067 Social Science Research Methods (2/0) This course is** to Social Science Research Methods with the aim of developing the ability to make an academic research. Besides teaching the formalities and theories of research, each student will develop a personal research project, which will be discussed in class.

**T0327 Economic and Trade Relations of Latin America (3/0)** This course explores the content of trade and investment of Latin American economies, the rise of debt and financial crises and their relations with domestic monetary systems and International/regional financial markets, regional economic integration, etc., so that students can have a comprehensive understanding.

**T0856 Spanish Latin American News (2/0)** This course is an introduction to the language used in the Latin American media, and its social, economic and political contents. It aims both to familiarize the students with the language of Latin American media and with the present reality of Latin America, in order to facilitate its collection of information, and its research on Latin American topics.
GRADUATE INSTITUTE OF EUROPEAN STUDIES

Degrees Offered: M.A., Ph.D.

Chair: Kuo, Chiu-ching (郭秋慶)

The Department

Established in 1971, the Graduate Institute of European Studies offers a variety of courses for the master's degree (two to four years of study in average) in the fields of European Integration and European Union studies, such as European politics, security, economic, social and cultural affairs. From 2000 on, our Institute offers the Ph.D. Program in the same field as master's degree. From 2009 on, our Institute set up two divisions of European Union and Slavic Studies.

There are 147 students in the Graduate Institute of European Studies. All of them have completed their undergraduate or graduate studies in the fields of social sciences or foreign languages.

The 9 full-time faculty members of the Institute are provided with their own academic backgrounds such as international relations, economics, law and philosophy. They have their research interests in the fields of European Integration, European Union and Russian social sciences. They all hold Ph.D. degrees from major European universities, for instance Wien University, Bonn University, Madrid University and Moscow State University, etc.

Faculty

Professors
Tzou, Peter Chong-ko (鄒忠科); Kuo, Chiu-ching (郭秋慶); Maliavin, Vladimir (馬良文);
Pisarev, Alexander (彼薩列夫)

Associate Professors
Lin, Li (林立); Yuan, Renee Yi-mond (苑倚曼); Cho, Chung-hung (卓忠宏);
Chen-Rabich, Li-juan (陳麗娟)

Assistant Professors
Chang, Fu-chang (張福昌); Cheng, Chin-mo(鄭欽模)

Degree Requirements

1. The Institute of European Studies offers a Master's degree in Social Science for Division of European Union Studies.

   Requirements for a Master's degree in Social Science:
   Students must complete 34 credits of university courses, including 15 credits of elective basic courses. They are also required to pass the qualifying examination and the review of thesis proposal, submit a written master’s thesis completed under the supervision of a faculty member, and pass an oral defense.

2. The Institute of European Studies offers a Master's degree in Social Science for Division of Slavic Studies.

   Requirements for a Master's degree in Social Science:
   Students must complete 34 credits of university courses. They are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral defense.

3. The Institute of European Studies offers a Ph.D. degree in Social Science.

   Requirements for a Ph.D. degree in Social Science:
   Students must complete 27 credits of courses, including 6 credits of elective basic courses. They are also required to have intermediate-level proficiency of a European language, pass the qualifying examination, publish or present at least one research paper in academic journals or international conferences, submit a written doctoral dissertation completed under the supervision of a faculty member, and pass an oral defense.

2010-2011 TAMKANG UNIVERSITY CATALOG
Course Descriptions

Division of European Studies

Master's Program

T0541 EU Higher Education Policy (2/0)
The current course introduces students to the development of European educational policy integration. It has fulfilled the idea of European integration. In 1998 the ministers of education of France, Germany, Italia and England cosigned Sorbonne Declaration and opened the prolog to the Bologna Process. The EU is moving on and has contributed to the largest European Education Area. This course will also discipline them to research independently and critically in the field of European studies.

T0322 Analysis of European States and Economic Globalization (0/3) The course focuses on 1) the trend of neo-liberalism, 2) British, French, and German response to globalization, and 3) discussion of special topics like GMO, immigrants, etc.

T0437 Seminar on EU Economic Law (3/0) The EU Economic Law is one of the important fields of the EU Law. This seminar focuses on the Four Fundamental Freedoms of Movement that are related to goods, persons, services, and capitals. The Four Fundamental Freedoms of Movement are the basis of the EU Economic Law. Besides, the competition law is another important field of the EU Law. The competition law regulates the open and fair market. The goal of this seminar is to offer students a basic knowledge about the law of the Single European Market.

T0438 Seminar on EU Trade Law (0/3) The EU is a form of customs union under Art. XXIV GATT, which is to reach the goal of the free trade among the EU Member States. The EU has a common trade policy against third countries and that is the most important characteristic of the customs union. The EU Trade Law is also very important to Taiwan. When Taiwan's goods are exported to the EU, Taiwan's exporters have to follow the EU Trade Law. This seminar can offer students a basic knowledge of the EU Trade Law.

T1308 European Union and the World Trade Organization (3/0) This course familiarizes first- and second-year students with the European Community Common Commercial Policy and the fundamental role of the EU in world trade since the creation of the General Agreement on Tariffs and Trade (GATT) to the present World Trade Organization (WTO) debates and functionalities. In the first part, the origin of the WTO is presented with a historic view of the creation of the GATT and the achievements realized by the past and present negotiation rounds. In the second part, the EU Common Commercial Policy is presented from the scarce official texts by the origin to understand the motivation of exchanges between the EU and third countries.

T0547 EU and Its Rural, Agricultural and Environmental Policy (3/0) This course presents to students the European Community’s first common policy: “The Common Agricultural Policy.” From Rome Treaty (1958) on, regulations have given form to the “Common Market,” (6 founding countries) based on free exchanges of persons, goods, and capitals. Therefore in a second part, international trade views on Agricultural trades and the occurred consequences are studied and bring the course to move to its third part with the reform of the CAP decided by the EU with their commitments upon the creation of the World Trade Organization (WTO) in 1995, with Agenda 2000 new directions. Also presented is the Common Fishery Policy, including its reform and the total catch and aquaculture trends.

T1769 European Social Security System and Social Policies (0/3) This course gives an overview of the evolution and role of social policies and social security systems in Europe with particular emphasis on the political, economic, organizational, demographic, and professional factors that have influenced them. Based on frameworks of policy dimension, values, and knowledge, selected social policies are examined within an historical and contemporary context. The principles of social and economic justice are used in analyzing social policies and programs. Special attention will be given to the elderly, mentally ill, developmentally disabled, unemployed, and socially excluded.
T2303 Common Foreign and Security Policy of European Union (0/3) The course focuses on: 1) the cooperation of British, French, and German foreign policy, 2) the formation of common European security, and 3) the perspective of common foreign and security policy.

T2468 European Union: Institutions and Decision-Making (0/3) This seminar presents the institutions of the European Union (EU). The European Commission traditionally upholds the interests of the EU as a whole, while each national government is represented within the Council of the EU, and the European Parliament (EP) is directly elected by citizens. This “institutional triangle” of the EP, the Council of the EU and the Commission is flanked by two more institutions--the European Court of Justice and the European Court of Auditors--and five other European bodies--European Central Bank, European Economic and Social Committee, European Committee of the Regions, European Investment Bank, and European Ombudsman.

T2470 European Union and Regional Integration (0/3) Regionalism flourished in the 1960s. But by the end of the decade, there were few places outside Europe where the regionalist experiment had produced tangible results. Throughout the Cold War period, then, regionalism had remained on the international agenda, but its scope was limited. Following its decline in theory and practice in the 1970s, regionalism both revived and changed dramatically in the 1980s, and has gained strength in the 1990s. The successful European regionalism revived hopes in other regions that they might be able to follow the same path. The purpose of this seminar is to open up a series of theories on contemporary regionalism and to draw the principal varieties of regionalism in the world.

Division of Slavic Studies

A1430 Russian News Reading Selection (0/2) This course discusses the problems of mass media language. Special attention will be given to Russian newspapers, journals, and other significant materials.

T0303 Foreign Economic investment in Russia (0/2) This course provides an understanding of economic and trade relations between the Russian Federation and other countries.

T0305 A Research of Ethnic Population and Interactions in Russia (3/0) This course deals with the history, ethnic population of Russia, and the development of nation groups in a particular period.

T0362 Russian Religions and Typology of World Civilization (3/0) This course deals with the history and social significance of religious beliefs and traditions in Russia, including the Orthodox church, Christian sects, Islam, and Buddhism.

T0494 Russia Peasantry and Modernization of Russia (2/0) The agrarian problem is a key issue in the traditional and modern history of Russia. This course provides an understanding of the history of agrarian reforms in Russia from Alexander II to Boris Yeltsin.

T0495 Traditional Russia: State and Society (2/0) This course approaches current situations in Russia as well as its history from a sociological perspective. The course is also intended to provide students with a general understanding of the main factors in the process.

T0609 Vladimir Putin & Dmitry Medvedev (1/0) This course discusses the Russian federalism under both President Putin and President Medvedev. It will explore the status of the current dual leadership, the recent Russian conflict with Georgia, and the respective roles of the two leaders.

T1146 Political Reforms in Contemporary Russia (0/2) This course provides an understanding of the political structures of the Russian Federation and political activities of the mail political parties.

T1156 Twentieth Century Russia: Culture and State (2/0) This course focuses on one aspect of the history of Russia recently unknown to students. Basic ideas of the development of various spheres of the cultural heritage of this country are elaborated.

T1171 Mass-Media in Modern Russia (0/2) This course discusses the problems of mass media, history of Mass-Media, development and relation with the government.
T1367 **International Relations Theories and Sino-Russia Relations (0/3)** This course offers comparisons between the theory of nation and national politics and between the practice and its inconsistency with theory.

T1530 **The Relationship between Europe And Russia (0/2)** This course covers the relations between Russia and East Europe, especially in politics and economy.

T1532 **Documents on Russia: How to Use Them? (3/0)** This course discusses the problems of an archaic language. Special attention will be given to Russian documents and other significant materials.

T1928 **Russia Foreign Policy after the Cold War (0/2)** This course discusses the problems of Russian policy after the Cold War, especially Russia’s relation with Europe.

T2219 **History of Political Thought in Russia (0/3)** This course focuses on the change of Russian political thoughts from the Czarist period to the communist regime.

T2225 **Globalization and Russia (2/0)** This course discusses the problems of globalization that affect Russia, including economy, politics, and nationalism.

T2227 **Study of The Commonwealth of Independent States (3/0)** This course studies political and economic transitions in the counties of the Commonwealth of Independent States.

T2279 **Working on Thesis: Research Methods in Social Sciences (0/2)** This course studies data collection and report writing techniques.

T2499 **Foreign Economic Relations of the Russian Federation (2/0)** This course provides an understanding of trade and economic relations between Russia and other countries.

T2501 **Social Transformation in Contemporary Russia (0/2)** This course studies the current social reforms in Russia. The future of Russia will also be discussed in class.

T2503 **Russian Reformers (3/0)** This course covers the characterized reforms of all previous Russian dynasties. This aspect of Russian history elaborates the development of various spheres of this country’s cultural heritage.

T2504 **Economic Development of Russia in Transition (3)** This course studies the economic development in Russia. It provides an understanding of basic economic concepts such as economic reform, privatization, and liberalization.

T2510 **Russian as International Language (I) (3/0)** This course studies the Russian language, including basic vocabulary, grammar, and sentence patterns.

T2511 **Russian as International Language (II) (0/3)** This course studies the Russian language, including advanced vocabulary, grammar, and sentence patterns.

**Ph.D. Program**

T0439 **Study on European Union and Regionalism (0/3)** This course focuses on 1) regionalism after the end of the Cold War, 2) European Union as regionalism, and 3) discussion of selected articles.

T0441 **European Union and Developing Countries (0/3)** Since its foundation in the 1950s, the European Union has been developing relations with the rest of the world through a common policy on trade, development assistance, foreign and security policy and formal trade and cooperation agreements with individual countries or regional groups. This seminar addresses the EU external relations, focusing on developing countries like Africa, Caribbean and Pacific States (ACP), the Western Balkans, Mediterranean partner countries, Asia, and Latin America.

T0442 **Seminar on EU Corporation Law (3/0)** With globalization, the Continental legal system and the Anglo-American legal system have influenced each other, especially in the field of corporation law. There are both legal systems within the EU. The European Commission has undertaken many reform
steps in the field of corporation law, especially in the aspect of harmonizing corporation law among the EU Member States. The goal of this seminar is to broaden students’ viewpoints related to the legal issues under the aspect of cross-border investment.

**T0640 The EU’s Economic Policies (3/0)** This course provides an analysis of the economic rationale for the European Union Economic Policies and its historical and political background, insights on the role of the Nation States and the European institutions towards the Single Market program, and analysis of convergence, disparities and distribution effects within the EU. Focus will be on integration theory and analysis of EU policy making illustrated with current issues such as Economic and Monetary Union, competition and industrial policies as well as consumer and environmental protection or the EU social and cohesion policy after the last enlargement.

**T1775 European Integration and Theories (3/0)** This course provides an advanced study of the EU integration theories and history of EU integration. The future of EU development is thoroughly examined.

**T1968 Seminar on EU Law (3/0)** The EU is the most important supra-national organization after the WWII. The basis of the EU includes 3 pillars. This seminar focuses on the first pillar, including the European Communities. The European Community is the most important part of the EU. The goal of this seminar is to enrich students’ basic knowledge about the EU.

**T2466 Seminar on EU Capital Market Law (3/0)** The EU Capital Market Law is a key part of the EU corporation law. With globalization, cross-border investments play an important role in the international transactions. The European Commission has recently modernized legal framework for the European financial market and taken an action plan for the financial services. Therefore, there are many new regulations related to the European capital market. The goal of this seminar is to offer students an outline of the European Capital Market Law.
GRADUATE INSTITUTE OF ASIAN STUDIES

Degrees Offered: M.A., Ph.D.

Chair: Hu, Ching-shan (胡慶山)

The Institute

Asia is an area of human activity with a long history, and full of diversity in culture, religion and philosophy. In recent years, as a result of economic development, Asia has received increasing attention from the world. Meanwhile, accompanied by the economic development which results in political change and democratization in Asia, even the issues of development of constitutionalism, human rights, security protection, and economic integration, etc., Asia has become the focus of global concern. In the vast area of Asia, East Asia is the place of our life and co-existence and prosperity. The most important adjacent neighbors of Taiwan are Japan to the north and the Southeast Asian countries to the south. Close ties exist among these countries. It is necessary to understand and study Taiwan’s neighbors. Based on this understanding, Tamkang University decided to establish the Graduate Institute of Asian Studies. The Institute is comprised of two divisions: Japanese Studies and Southeast Asian Studies.

Faculty

Chair Professor
Lo, Fu-chen (羅福全)

Professors
Hsu, Ching-hsiung (許慶雄); Tsay, Ching-lung (蔡青龍); Chen, Hurng-yu (陳鴻瑜)

Associate Professors
Jen, Eau-tin (任燿廷); Tsai, Hsi-hsun (蔡錫勳); Hu, Ching-shan (胡慶山); Lin, Juo-yu (林若雩)

Assistant Professors
Lin, Chin-ming (林欽明); Koyama, Naonori (小山直則)

Degree Requirements

Completion of 36 credits of courses, including 4 credits of seminar and 32 credits of elective courses. Students are also required to submit a written master’s thesis completed under the supervision of a faculty member and pass an oral examination.

Course Descriptions

Master’s Program

Division of Japanese Studies

T0114 Case Studies on International Law (2/0) The purpose of this course is to investigate: doctrine of the supremacy of International Law over Municipal Law, sources International Law, customary International Law, sovereignty, recognition of states, state responsibility, boundary, domestic validity of treaties, problems of Taiwan, Inter-government organizations, Non-government organizations, International civil servants, United Nations, Security Council, ILO, WHO, WTO, PKO, IBRD, IMF, European Community, European political cooperation, International Court of Justice, Dispute, etc.

T0359 Japanese Business Management (2/2) Given that the Japanese management has changed during the Lost Decade, this course will teach the new style of Japanese management. It will include how Japanese companies re-emerged from the Lost Decade and what kinds of change they adopted. The new Japanese management will affect East Asian companies. The rebirth of Japan as No. 1 is not a prediction but a real story. Japanese salary-men are building a new landscape. Economic growth is not the only carrot. They are balancing growth between go-go economies and sustainable nature.
T0484 Japanese Economy in the Age of Globalization (2/2) The past decade has witnessed an increasingly rapid tendency toward globalization in the world economy, and this has significantly affected the comparative advantage and international competitiveness of nations. This course examines the evolution and effect of globalization on the comparative advantage and international competitiveness of Japanese economy and enterprises through trade, FDI, technology transfer during the postwar period. We evaluate the view that Japan is facing a serious double competitiveness squeeze, high-technology goods from the U.S. and Europe and simpler manufactured goods from emerging developing countries, especially the Dynamic Asian Economies. In particular, this course focuses on challenges and strategies for Japanese corporate activities in the East Asian region: firstly, characteristics of Japanese corporate activities in the East Asian region and development of a business environment; secondly, strategic efforts by Japanese companies in the East Asian region.

T0585 Japan Court and International Human Rights Case (2/2) This course discusses the cases of human rights in Japan’s constitutional law, connected with international human rights, especially for Japan supreme court's judgments.

T0589 Japan Constitutional Case (2/0) The purpose of this course is to investigate: Japanese Constitutional human rights system & national power and private society, Equal principle, Freedom of thought, Freedom of expression, Academic freedom, Property and public welfare, Fundamental right to social welfare, Right to live, Right of education, Working conditions, Right of workers, Labor dispute, Law-making organ, House of Representatives, House of Councillors, dissolve system, Executive power and the Cabinet, non-confidence, Judges & independent, Supreme Court, Judicial review, local autonomy, foreign affairs, Party, party politics, etc.

T0591 Seminar on Japan and WTO (2/2) This course introduces the fundamental theory of international trade and the effects of trade liberalization. The purpose of this course is to present and discuss WTO and its role in world trade and Japanese economy.

T0593 Seminar on Japanese Foreign Trade (2/2) This course introduces the fundamental theory of international trade. The purpose of this course is to present and discuss the effects of international trade on Japanese economy.

T0595 Japanese Industrial Policies (2/2) Japanese government model has been imitated by many countries. This course emphasizes the development of Japanese industrial policies from the Showa era until now.

T2109 Japanese Human Rights (2/0) This course focuses on freedom of thought and consciousness around the spiritual freedom on Japanese Constitutional Law, in the forms of discussion, oral report, and paper writing, etc.

T2125 The Study of Japanese Research (3/0) This course is designed to discuss what Japanese Studies is and how we can tackle it. It is intended to serve as an introductory course to Japanese Studies and, therefore, most suitable for first-year students. On the other hand, students will also read some publications that could provide them a base of thought for their future studies. Those publications include: Edward Said. Representation of the Intellectual, Benedict Anderson. The Spectre of Comparisons, Pyle Kenneth. Japan Rising, etc. Students are expected to have read the publications in advance so that they are prepared to discuss them in class.

T2483 Economic Development and Trade of Postwar Japan (2/2) This course examines the evolution of Japan’s economic development and trade during the postwar period. “Japanese economic miracle” is the phrase used to describe the outstanding performance of Japanese economy during 1955 to 1973, and “the lost decade” is the phrase used to describe the phenomenon of the slump in Japanese economic activities during the 1990s. The main purpose of this study is to investigate the reasons and explanations of these Japanese economic phenomena.

T2491 Japanese Competitive Strategy (2/2) American strategy was the main stream in the 1990s. Japanese companies were criticized seriously because of their bad performance. But the Japanese economic power is still very strong. Besides, American companies are facing serious trouble in 2008. This course discusses how the Japanese style strategy is different from the American style strategy.
T2520 Japanese Strategic Management (2/2) The American style management is not perfect. Of course, nor is the Japanese management. Because of the recent crises of American finance companies, Japanese experiences are good examples for the world. This course discusses Japanese style of strategic management.

Division of Southeast Asian Studies

T0330 Seminar on History of Maritime Southeast Asia (2/0) This course covers the topics on the early history of the Philippines and Indonesia, invasion of Spain and Holland into the Philippines and Indonesia, independence movement of the Philippines and Indonesia, impact of western culture on maritime Southeast Asia, and post-colonial history of maritime Southeast Asia.

T0373 Seminar on Ethnic Chinese Community in Southeast Asia (0/3) This course focuses on the evolution of Chinese emigration, formation of overseas Chinese society, Chinese identification and anti-Chinese riots.

T0390 Industrial and Business Organizations of Southeast Asia (2/0) This is a course focusing on issues related to industrial and business organizations of Southeast Asia. By exploring business and investment environment of the region, the instructor hopes that researchers as well as practitioners will be well-informed of the status of Southeast Asia in the global trade system and its success in business operations.

T0395 Political Development and Democratization in Southeast Asia (2/0) Firstly, this course will define relations between democratization and political development. Then the political development, economic development and democratization in Southeast Asia will be analyzed. Lastly, the course explains the impact of process from authoritarian regime to democratic regime in Malaysia, Singapore, and Indonesia.

T0487 Development Issues on Southeast Asia (3/0) This is a basic course on various aspects of development relevant to countries of Southeast Asia such as poverty reduction, rural development, population policy, environmental management, health improvement and urbanization.

T0488 Labor Conditions and Development in Southeast Asia (0/3) This course aims to examine the supply side of labor conditions in Southeast Asian countries. It will look mainly into the dynamics of population and labor force, and their determinants and consequences.

T0588 Religions in Southeast Asia (0/2) This course is intended to introduce various religious traditions in Southeast Asia, from historical, social, and cultural aspects. Islam, Buddhism, and Christianity will be the main traditions taught and discussed in light of the modern development in Nusantara and Indochina.

T0631 International Relations and Regional Security in SEA (3/0) This course will examine the historical roots and the political, economic and cultural dynamics of Southeast Asia’s relations with the major powers, as well as relations among Southeast Asian nations. Special attention will be paid to Southeast Asian attempts to shape regional institutions to address common problems.

T0847 Labor Migration in SE Asia (2/0) The course will examine both theories of labor migration in general and its empirical evidence in SE Asia in particular. Focus will be placed on relations between migration and development.

T0848 Population Change and Industrial Development in SE Asia (3/0) The components of population change in SE Asia, especially the recent declines in fertility, will be investigated, along with their implications for industrial development.

T0849 Seminar on Security and Diplomacy in Southeast Asia (0/2) This course will begin by highlighting the significance of ASEAN and by providing some background information on Southeast Asia and on security and diplomacy of each of the ten member states. It will then examine the reasons leading to each ASEAN member’s external relations in the region.
T0850 Seminar on the Relations between Taiwan and Southeast Asia (3/0) This course focuses on the relationship between Taiwan and Southeast Asia. It shall cover the subjects of politics, economy, trade and investment, race and culture contact. For a student’s best understanding of the current situations, a historic approach would be applied to explanations on each topic.

T0851 Seminar on Secessionist Movements in Southeast Asia (0/2) This course focuses on the topics of secessionist movements in Southeast Asia, whose main factors involved the religious, racial, and regional identity in Indonesia, the Philippines and Thailand respectively. There is a trend to coordinate connection among the secessionist groups in Southeast Asia after the 911 incident.

T0853 The United States, Japan and China’s Foreign Policy in East and Southeast Asia (0/3) The United States, Japan, and China will be the most important players in East and Southeast Asia. This course will end by stressing that at the start of the 21st century how the 3 great powers deal with its political, economic, social, and religious relations in this region. And then, the course explains how the 3 hegemonic powers solve recent troubles including South China Sea, Terrorism, and Nontraditional Security Issues.

T1497 A seminar of Southeast Asian Region (2/0) This seminar aims to familiarize students with Southeast Asian history, ethnicity, religions, arts, gender, cross-border trade, middle classes, regional security, economic integration and “Tai-Shang” phenomena. Students are required to write a term paper.

T1993 Governments and Markets in Southeast Asia (0/3) The course is to explore the intermediary role in the market played by the governments of Southeast Asian countries. Through discussing how this role has changed and progressed, the instructor hopes that students can better understand the appropriate functions of governments in the new century.

T2149 Economic Trade Relations of Southeast Asia (0/3) This is a course focusing on development-related trade and financial issues of Southeast Asia. Topics such as protectionism, foreign direct investment, foreign exchange systems, capital markets and regional integration will be discussed.
GRADUATE INSTITUTE OF CHINA STUDIES

Degree Offered: M.A.

Chair: Chang, Wu-ueh 張五岳

The Department

Fifty years ago, separation prevented the people in Taiwan from taking a close look at the political and economic developments and many other changes in culture, education, laws and regulations in China. Nowadays, cross-strait relations have entered a brand new stage with close personal relationships as well as economic and trade exchanges between the two sides of the Taiwan Strait. The time for launching thorough and comprehensive research of China is ripe.

These developments prompted the Ministry of Education to dispatch an official request, in August of 1991, to Tamkang University to conduct research on Cross-Strait relations. The Ministry of Education even suggested that a Graduate Institute of China Studies be established to train researchers to undertake in-depth studies of China affairs to promote practical solutions and ways to cope with the ever-changing cross-strait situation in the future. Besides, a master’s program for extension education has been offered since 1999.

Faculty

Professors
Chao, Chun-shan 赵春山; Su, Chi 蘇起

Associate Professors
Chang, Wu-ueh 張五岳; Guo, Jiann-jong 郭建中; Li, Chi-keung 李志強; Pan, Hsi-tang 潘錫堂; Yang, Ching-yao 楊景堯

Degree Requirements

Requirements for a Master’s degree in Graduate Institute of China Studies:
Completion of 32 elective credits of courses. Students are also required to submit a master’s thesis completed under the supervision of a faculty member and pass an oral examination.

Course Descriptions

T0510 Research Methods and Wring (3/0) This class is for graduate students to learn methodology. It is divided to four parts: part one, main concepts of research; part two, research paradigms; part three, a review of PH.D. theses over 20 years to explore their methods and conclusions; part four, submission of a written proposal so as to criticize each other to improve basic skills.

T0619 Word Education and China Issues (2/0) This class is taught in English, but not a class to teach English. In this class, selected speeches in Peking University in the last few years will be offered toward and discussed. The main purpose is to learn: World, Education, and China Issues today.

T1032 Politics and Government of Mainland China (2/0) Introduction to the political system, faction politics & political succession in mainland China.

T1115 A Study on the History of Chinese Communist Party (2/0) The course involves extensive studies in Chinese Communist Party. Emphases are on the historical background of Chinese Communist Party creation, theoretical basis of revolution, developing process, and issues in analyzing major historical events.

T1593 Basic Theories of Cultural and Education Studies (1/0) This class is to offer basic concepts of Education and Cultural theory concepts. The field includes Education, Psychology and Sociology. The approaches will be typical theory, scholar or explanation to main concepts.
T2385 Mainland China’s Political Development (2/0) The purpose of this course is to analyze the process of China’s political change by focusing on the five components of China’s political system—Culture, structure, groups, leadership, and policies. The emphasis is going to be on the interplay between these components—their type and rate of change.

T1177 Foreign Policy & Deplorable Relationship of Mainland China (2/0) Introduction to China's foreign policy, China's policy toward the USA, China's policy toward the European Union.

T1481 SEM.ININTL Business Management (2/0) Through the analysis of real-world cases, this course helps develop the student team work spirit by analyzing the impact of environment on business and solving business problems.

T1620 Particular Research on the Political (2/0) This course, based on the contemporary political economic theory and traditional Marxism political economy, selects a representative cross-strait interaction in the economic and political aspects for an analysis of cases. Through the interaction theory and case review, students explore the cross-strait affairs interaction.

T1885 A Study on the Economic System Change in China (3/0) This course provides students with a basis for understanding the functioning of the Chinese economy. Built on these foundations, elective subjects covering the most important aspects of the Chinese economy are offered for students to select as their areas of concentration for more specialized study. Topics discussed include the changes of economic systems, reforms of institutional arrangements for agriculture, manufacturing industry, foreign direct investment, financial markets and public finance.

T2367 Lecture on Taiwanese Enterprises Investment in China (2/0) This course is designed to cultivate students to understand the Chinese investment environments; to understand the economic and industrial development in China; to understand the current situation of Taiwanese enterprise investment in China; to understand the cooperation and competition in trade and investment between Taiwan and China; to lead students to have a sense of reality in investment and management when the Taiwanese enterprises provide their experiences; and finally, to help students to understand the challenge and threat in investing abroad.

T2371 Economic Globalization and Economic Development in China (3/0) The course is designed to cultivate students’ ability in analyzing the Chinese economy from a global prospective: understanding how China responds to globalization; understanding the impacts of China’s globalization on global economy; understanding the internal and external Chinese economic problems while facing economic globalization; and finally to help students to develop abilities in analyzing the future development of the Chinese economy and globalization.

T2448 Research Methodology of Enterprises Management (3/0) This course is design to cultivate students the following academic capacities: 1. to analyze the current economic environment in China for F.D.I from Taiwan; 2. to help students to develop their capacity in designing research programs, collecting, and analyzing research data and writing up their research projects. Besides, this course will be taught in English, thus helping students to upgrade their English.

T2465 Methodology of China’s Economic Research (1/0) This course provides students with a theoretical basis and research methods for analyzing the issues of the Chinese economy. Built on these foundations, elective economic theories covering the most important aspects of the Chinese economy are offered for students to select as their areas of concentration for more specialized study. Theoretical topics and their application discussed include comparative economics, transition economics, institutional economics and development economics.

T0331 The Research Study of China : Theory & Practice (3/0) This course is meant to introduce various theories and approaches in China study, and through the actual cases, provide students an understanding in the research of mainland China.

T0876 A Topic of PRC’S Company Act (3/0) This course focuses on the Company Act of PRC, its basic rules, problems and their differences from those of the Company Act of ROC.

T0887 China Economic Development Strategies After 2000 (3/0) This course helps students to
understand the emerging economic power of China; to learn the factors behind the Chinese emergence; to cultivate students’ ability to analyze ability in analyzing the Chinese energy & Renminbi in the aspects of global strategies and policies; and to analyze challenges and threats facing these two during their global progress.

T0888 Communist China’s Policy Taiwan & Cross-strait Relations (3/0) Introduction to the China's policy toward Taiwan and its impact on the Cross-Strait Relations.

T1266 Seminar on Cross-Strait Relations (2/0) Since 1979, Cross-Strait relations could be divided into three periods: (1) 1980s: a period of political and economic separation; (2) 1990s: a political division and an economic exchange period; and (3) post-2000: a political division and a growing economic exchanges period. The relation between China and Taiwan has been shifted several times due to both the internal power conflicts and the external power influences from U.S., Japan and other international organizations. This course describes the current Cross-strait relations and identifies factors behind any shift of the Cross-strait relations.

T1821 Studies on Chinese Economic Development (3/0) This course provides students with a basis for understanding the functioning of the Chinese economy. Built on these foundations, elective subjects covering the most important aspects of the Chinese economy are offered for students to select as their areas of concentration for more specialized study. Topics discussed include the changes of economic system, reforms of institutional arrangements for agriculture, manufacturing industry, foreign direct investment, financial markets and public finance.

T2031 Communist China’s Relations With Its Neighbors (3/0) Throughout history-whether at peace or in conflict-China has generally placed its first priority on relations with its neighbors. This course analyzes the development of China’s relations with both its Asian neighbors and the United States and assesses the impact these developments will have on China’s security and the security of the Asian-Pacific region.

T0282 Topical Study on Cross-Strait Relations (0/2) This course introduces the important Issues & Topics of the Cross-Strait relation, including the political, economic, cultural & military aspects.

T0331 The Research Study of China : Theory & Practice (0/2) This course aims to introduce various theories and approaches in China study, and through the actual cases, provides students an understanding in the research of mainland China.

T0383 A Study of Cross-Strait Negotiation (0/2) This course introduces the theory and practice of the Cross-Strait negotiation, including the impact of the agreements.

T0621 China’s Higher Education and World Movement (0/3) This course is to introduce the development of China’s Higher Education, including systems, main areas and challenges faced by its Higher Education. Students can apply the knowledge in China studies.

T0803 Science & Technology Development in China & National System (0/2) China is now emerging and starts to influence the world economy dramatically. This course will emphasize on the S&T development in China, such as the formation of China’s national innovation system and the political environment for S&T development. The purpose of this course is to inform students of the change of China’s role in the world, which can arise from the technology superpower and may challenge the US leadership.

T0860 Social and Economic Issues Across The Strait (0/3) In addition to individual instruction, the class instructor also invites experts and scholars to lecture on mainland China's important social and economic topics, so as to allow students an understanding of Chinese society and economic development and change.

T0861 China's Issues Concerning Agriculture Countryside and Farmers (0/2) In-depth analysis of selected China’s issues concerning agriculture, countryside and farmers. Topics discussed include the economic development of agriculture, disparities between rural and coastal areas, business organizations of township and village enterprises, social stratification and social mobility, social changes and conflicts, urban and rural development, institutional changes in the countryside.
T1439 Marx and Lenin Thought (0/2) The course introduces Karl Marx’s thought, method and world-view, as well as Marxism after Marx, including the development from Leninism to Chinese Marxism, the dialogue between Eastern and Western Marxism, the influence of Marxism on contemporary political, economic, social and cultural theories, as well as the Marxist challenges of globalization.

T0284 A Study on Industrial Economic in Mainland China (0/3) This course provides students with a basis for understanding the functioning of the Chinese industrial economy. Built on these foundations, elective subjects covering the most important aspects of the Chinese industrial economy are offered for students to select as their areas of concentration for more specialized study. Topics discussed include policies of industrial development, industrial structure changes, relationship between industrial development and foreign direct investment, introduction of various important industries.

T0287 Studies on China’s State-Owned Enterprise Reform (0/3) This course provides an introduction to the state-owned enterprises’ (SOEs) reform in China. The focus will be on the changes of the institutional arrangements, roles and the privatization of state-owned enterprises. The course will cover periods under the regimes of Mao Zedong, Deng Xiaoping, Jiang Zemin, and the new leadership of Hu and Wen. Basic economic theories, interpretations and data related to the development of contemporary private enterprises will be discussed.

T0402 A Study on China’s REXORM and Open Door Policy (0/2) The purpose of this course is to discuss the motivation and main contents of communist China’s “Reform and open-door policy” as well as their impact on Chinese politics, economy, society and foreign relations. The evaluations made by scholars and observers on China’s “reform and open-door policy” will be analyzed at the end of this course.

T0620 A Study on Practical Issues of China Culture and Education (0/2) This course is on general education for China studies. Main areas include: education background, soft power, textbooks, primary education, higher education and art, music issues.

T0857 Global Investment by the After Financial Crisis (0/3) This course designed to help students to understand the reality of Taiwanese enterprises’ investment pattern in China and other global regions. Firstly, students will be able to understand the impacts of Chinese customs system, tariffs and the direct flights on Taiwanese enterprises in China. Then, students will be able to understand deeply about the investment in China by Taiwanese enterprises in manufacturing and service sectors. The course is designed to merge theories and practice about Taiwanese enterprises’ investment abroad.

T1835 Taiwan Enterprises Global Investment and Competiveness (0/3) This course firstly introduces the international cooperation investment theory and changes of Asia’s investment environment after the 2008 financial crunch. Afterward, we would look at changes of China’s investment environment and analyze Taiwanese Enterprises’ investment patterns in China and South East Asia. And finally, we would briefly look at the Chinese enterprises’ investment abroad.

T2412 Quantitative Methods and Applied Statistics (0/3) Quantitative research methods illustrate the statistic software of SPSS and Minitab to analyze the industrial, economical and social surveys in China. Graduate students are expected to interpret the results through the experimental design, test research hypotheses, analysis of variance, regression and trend analysis.

T0617 The Role of State in Chinese Economic Development (0/3) This course is designed to study the role of the Chinese government in the economic development after 1979. Firstly, we would introduce concepts and theories of the role of the state in developing countries and the role of the Chinese government in the planning and transition period. Then, the global role of the Chinese government in WTO and regional FTAs and the internal role of the Chinese government in the State Owned Enterprises, private enterprises and other fields will be studied.

T0858 A Topical Study on Taiwan’s Policy Toward Mainland China (0/3) This course analyzes the change of Taiwan’s policy toward Mainland China, and its impact and Cross-Strait Relations.
A Study of Communist China’s Political Institutions (0/3) The change and development of Chinese political system have their unique historical background, sharing some characteristics with the Soviet model but owning their own features. The main goal of this course is to introduce various important political institutions of Communist China in terms of different functions they perform in its political system.

Research Seminar on Cross-Strait Relationship : THERY and PRAC (0/3) This course aims to introduce various theories and approaches of Cross-Strait relations, and through the actual cases, provide students an understanding in the research of Cross-Strait relations.

City and Regional Development In China (0/2) The City and Regional Development in China examines the current issues of city and regional development in China, including urbanization, uneven regional development, transportation and pubic investment in local infrastructure, estate and finances sectors, unemployment and migrant workers, minority and social welfare. This course also invites some experts to discuss city governance with more civic participation, social capital, art and leisure styles, ecological and healthy vision.

Industrial Development of Mainland China (0/3) This course provides students with a basis for understanding the functioning of the Chinese industrial economy. Built on these foundations, elective subjects covering the most important aspects of the Chinese industrial economy are offered for students to select as their areas of concentration for more specialized study. Topics discussed include policies of industrial development, industrial structure changes, relationship between industrial development and foreign direct investment, introduction of various important industries.
GRADUATE INSTITUTE OF INTERNATIONAL AFFAIRS AND STRATEGIC STUDIES

Degrees Offered: M.A. or M.S.S, Ph.D.

Chair: Wong, Ming-hsien (翁明賢)

The Institute

Founded in 1983, the Graduate Institute of International Affairs and Strategic Studies (GIIASS) focuses on research in international politics, international security, regional affairs, and strategy. At present, we offer both Ph.D. and master’s programs to domestic and foreign students interested in international affairs or strategic studies.

Faculty

Professors
Lin, Chung-pin (林中斌); Wang, Kao-cheng (王高成)

Associate Professors
Wong, Ming-hsien (翁明賢); Shih, Cheng-chuan (施正權)

Assistant Professors
Huang, Alexander Chieh-cheng (黃介正); Li, Da-jung (李大中)

Professor Emeritus
Wei, Wou (魏萼)

Degree Requirements

The Institute of International Affairs and Strategic Studies offers three programs at the graduate level, namely the Master's Program, Executive Master's Program and Ph.D. Program.

1. Requirements for a Master's degree of Arts:
   Completion of 36 credits of courses, including 8 credits of required courses and 26 credits of elective courses. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

2. Requirements for an Executive Master's degree of Arts:
   Completion of 33 credits of courses, including 9 credits of required courses and 24 credits of elective courses. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

3. Requirements for a degree in Ph.D. in Political Science:
   Completion of 32 credits of courses, including 9 credits of required courses and 23 credits of elective courses. Students have to pass a qualifying examination and publish at least one research paper in any journal listed in TSSCI or SSCI. Students are also required to submit a written doctoral dissertation completed under the supervision of a faculty member and pass an oral examination.

Course Descriptions

T0119 S.T. of International Politics (2/0) The course covers a number of important issues in the contemporary international relations. Both theoretical and practical aspects will be addressed during discussions of the issues. The course focuses on the study of the Asian-Pacific area, with particular emphasis on the development of Sino-U.S.-Taiwan relations and its influence on the interests of Taiwan. The lecture will be given in English. Reading materials will be assigned. Students are required to write papers and present them during the seminars.
T0134 The Theory of International Relations (3/0) This course introduces the theories and structures of international politics and explores important subjects of international relations. Both major theories and important international cases will be discussed.

T0578 The Basic Research of Strategy (2/0) This course not only asks students to understand the strategic research development and related implications by focusing on major strategic concepts and topics, but also explores the strategic research approaches and methodology, according to the change of strategic environment and tendency, integrating the disciplines, to be the foundation of future strategic studies.

T0817 Professional English and Writing for International Affairs (3/0) We will be reading newspapers and journal articles of international affairs and relations to learn the specific vocabulary, grammar, and above all, rhetoric. We will analyze texts to raise the awareness of specific structure(s) for formal and academic writing so that students can understand how ideas are organized and put forward in a coherent text. The course is also designed according to themes: 1. US and global economic crises, 2. EU and cultural integration, 3. climate change, 4. cross-strait relation. These are, of course, subject to change should other suggestions arise.

T0911 International Economic Strategies-Research Approaches and Methods (2/0) This course focuses on research design strategies in the study of major concepts, constructs and theoretical perspectives of International Economic Strategies. In parallel is a close examination of the connections with relevant disciplines, including international relations, international economics, and management.

T1102 History of Chinese Strategic Thoughts (3/0) The main purpose of this course is to study the core concept and theory of Chinese strategic thought. It shall offer optimal solutions to current strategic issues and inspiration to current strategic thoughts through the process of creative transformation of classical Chinese strategic thoughts.

T1500 An Introduction to Political-Military War Games (2/0) As an emerging great power in the Asia-Pacific region, the People’s Republic of China (PRC) is striving for a strong military stance that is parallel to its growing influence in international affairs. The course is designed to provide students an overview of defense modernization in the PRC and contemporary development of the People’s Liberation Army (PLA) with a specific focus on Chinese understandings, interpretations, and propositions regarding the revolution in military affairs (RMA).

T1571 Research Method for Social Science (3/0) The goal of the course is to provide an understanding of major research approaches and methods of social sciences. Students will be required to complete a research project.

T0312 Intensive Seminar on the Political Economics (2/0) This course highlights the analytical approaches of economic integration to fulfill the purpose of better understanding of international economic relationships. Heuristically, the lectures will be divided into the global sphere and the regional level, both of which cover markes and institutions respectively. Special topics such as the exchange rate system, the principles of WTO, the proliferation of FTA in East Asia, protectionism, trade and peace will also be discussed.

T1633 National Power and Strategic Action (2/0) The ultimate purpose of strategy is action. Strategic action comprises three elements: power, purpose, and environment. Two focuses of this course are as follows: 1. exploring the core concept and theoretical framework of national power and strategic action; 2. shaping the national and effective strategic action through the assessment of power, purpose, and environment.

T2379 National Security Policy Planning (3/0) The main theme of this course is to explore how the ROC government's top-level decision makers of the national security apparatus observe the dynamic situations of national security environment, analyze the factors which affect the core interests of the nation, and design the strategies to tackle the challenges, both domestic and international. Also, the key objective of the course is to train the graduate students to be able to think, analyze, and conduct research on the issues with regard to the national security policy in a strategic way.
T0315 Seminar for Management in Defense Affairs (SMDA) (3/0) cross-discussing approach and special topic research so as to push students for better understanding the classification and characteristics of the defense management domain in which the national security is definitely impacted. This course will facilitate studying through a KM platform which will provide knowledge management and community-learning for satisfactory learning of defense management knowledge and practicing experience.

T0134 The Theory of International Relations (3/0) This course introduces the theories and structures of international politics and explores important subjects of international relations. Both major theories and important international cases will be discussed.

T0310 A Disquisition on Strategic Theory (3/0) This is an advanced course of Chinese and Western strategic theory and practice. The classical strategic theory will be the key research of Chinese strategic theory. Western strategic theories comprise those from the classical to the current, which will be explained through topic research.

T0411 Selected Topics on Defense Transformation (3/0) This course is offered to provide doctoral program students with both categorized and chronological understanding of the intelligence service, communities, and operations, and their position in the overall national security apparatus. Emphasis will be given to the post-911 reform and transformation of intelligence communities. Primary reference is focused on the experience and practices of the United States.

T0418 Seminar on Globalization (3/0) The seminar will provide a critical learning environment for graduate students to both deepen their interdisciplinary knowledge of “globalization” and think seriously about the ways in which intellectuals engage the Global South through development discourse. Also, students will augment their knowledge of the political, economic, social and cultural issues that faced ex-colonies after independence. Furthermore, students will enhance their capacities for critical thinking and develop sophisticated interpretations of development theories, perspectives, issues and policies.

T0424 Communication Theory and Diplomacy Strategy (3/0) The purpose of this subject is to construct the thinking and application of Diplomatic Strategy by the linkage of criticism method of Habermas and Communication theory of international relations. Facing global society, finding multilevel and new approaches to understanding interaction of the world by reviewing the development of history and traditional theory might be helpful for our Strategic Studies. In the text, we also discuss the possibilities and their (self) criticism for construct Strategic Theory. It would be knowledge and thought enriching.

T1915 Seminar on National Security Studies (3/0) This seminar emphasizes what concept security is and what national security is. After obtaining a basic understanding of the two concepts, we go back to discuss each major state’s security controls and its security policy. Finally, Taiwan’s national security policy and its concrete actions will be examined.

T0256 The Foreign Policy of China (0/2) This course provides an analysis of Beijing’s foreign relations with a focus on the current US-Taiwan-China triangle. Skills of research, writing, and presentation are stressed.

T0512 International Negotiation and Mediation (0/2) The goal of the course is to provide an understanding of the roles of international negotiation and mediation in conflict resolution. The content of the course is divided into two parts: negotiation and mediation. The former covers the basics of international negotiation with emphasis on theoretical knowledge, such as the impact of power, the role of culture, and the nature of multilateral negotiation. The latter surveys major issues of international mediation with case studies, including the Oslo Accord, the Iran hostage crisis, and third-party intervention in Cambodia, East Timor, and Namibia.

T0580 History of War and Strategic Studies (0/2) History of War and Strategic Studies aims at introducing knowledge related to both war history and strategic studies. It will also explore values and functions of war history, strategic studies and interrelationship between the two critical fields respectively. Dealing with theories and practices, this course will also find its usefulness both in academic
studies and the practical world as well.

T0763 Comparative Defense Policies (0/2) This course examines defense policies of major countries from a comparative perspective in order to understand why defense systems and strategies differ among states and how these differences affect their defense policies and military strategies. The course is structurally divided into two parts. The first half aims to discuss defense policies of major military powers of the world, including the US, Russia/USSR, European Union, PR China, Japan and Australia. The second half is issue-oriented, focusing on topics such as nuclear weapons policy, force structure, naval policy, personnel policy and defense industries.

T1136 History of Western Strategic Thoughts (0/3) This course aims to introduce the western strategic thought and theory from the ancient Greek era to modern era. Two study approaches are as follows: 1. the vertical historical development: students will realize the developed logic and essence of the western strategic thought and theory; 2. the horizontal study of selected strategic writings to inspire current strategic theory: cultivating students’ capability of strategic thinking and strategic analysis is the ultimate purpose.

T1201 U. S. Strategy for the Asia-Pacific Region (0/2) This course plans to introduce the U.S.-Asia Pacific regional security strategy in the Post Cold War era. By rigorous theoretical and analytical frameworks, the students will be required to examine the process, contents, and consequence of the U.S.-Asia Pacific regional strategy. Two vital bilateral relations, the U.S.-Japan and U.S.-China relations, as well as their implications concerning Taiwan’s security, will be highlighted.

T1547 The Comparative East-West Economic Strategic Studies (0/3) This course examines the economic history of the East and West, especially referring to the Confucian Culture Economic area of the Far East countries after WWII and comparing it with the economically advanced countries of the West.

T2003 Asia-Pacific Security Strategy (0/3) The course aims to analyze the strategic situation in Asia Pacific region. It will explore the general strategic situation in the region, the major countries’ regional security strategy, including the United States, China, Japan, Taiwan, North and South Koreas, and ASEAN, and their strategic interactions.

T0776 Seminar on Strategic Theory (0/3) The purposes of this course are to cultivate the students’ strategic concepts and shape their capability of strategic thinking and strategic analysis through specific research on Chinese classical strategic theories and western classical, modern and contemporary strategic theories. Furthermore, the students will be able to make a better combination between strategic essence and their own professionalism. Thus, they will have the unique capability of strategic analysis and strategic judgement.

T2522 Revolution in Military Affairs in the PRC (0/3) As an emerging great power in the Asia-Pacific region, the People’s Republic of China (PRC) is striving for a strong military stance that is parallel to its growing influence in international affairs. The course is design to provide students an overview of defense modernization in the PRC and contemporary development of the People’s Liberation Army (PLA) with a specific focus on Chinese understandings, interpretations, and propositions regarding the revolution in military affairs (RMA).

T0576 The Security Situation in the Taiwan Strait (0/3) The goal of the course is to provide students with an understanding of the subject of security and peace in the Taiwan Strait. The contents of the course include the theoretical concept of security, U.S.-East Asia security strategy, US-China-Taiwan trilateral relationship, U.S.-Japan Alliance, military modernization of China, the role of the US in the Taiwan Strait crises, and U.S.-Taiwan Security ties.

T2068 Asia-Pacific Politics and National Security (0/3) The course aims to analyze the political situation in Asia Pacific region. It will explore the general strategic situation in the region, the major countries’ regional security strategy, including the United States, China, Japan, Taiwan, North and South Koreas, and ASEAN, and their strategic interactions.

T0312 Intensive Seminar on the Political Economics (0/3) The purposes of this course are to introduce and investigate: (1) the relationship between economic and political structures and processes
in the international system and (2) some of the institutions involved in it. We will examine major theoretical understandings of international political economy as well as specific issues in the field.

**T0444 Issues on Chinese Military (0/3)** This course aims at analyzing some issues related to Chinese military development from multi- and theoretical perspectives, including civil-military, military and society, defense and economics, military innovation, interpretation on Chinese way of war, nuclear weapon doctrines, and decision making.

**T0573 Study on Military Innovation (0/3)** This course employs an inter-disciplinary (political science, history, and management) approach for introducing and criticizing existing research approaches and theories on military innovations. Several in-depth case studies in three major fields of military innovation such as doctrine, technology, and organization will also be conducted.
COLLEGE OF EDUCATION
COLLEGE OF EDUCATION

Dean: Kao, Hsun-fung (高熏芳)

Brief History

The College of Education was founded in 2000 in response to the demands of international academic development and educational reform. The College is comprised of the following 7 units: the Department of Educational Technology, the Graduate Institute of Educational Policy and Leadership, the Graduate Institute of Educational Psychology and Counseling, the Graduate Institute of Curriculum and Instruction, the Graduate Institute of Futures Studies, the Center for Teacher Education, and the Center for General Education and Core Curriculum.

Missions

1. To generate and transmit knowledge through future-oriented education and forward-looking programs with the integration of educational theories and practice.
2. To promote local and global "role-model" education measures and research so as to provide educational administrative institutions as well as primary and secondary education with guidelines for practice and development.
3. To provide consultation on quality education management, establish partnerships with all-levels of schooling and educational institutions, and enhance the overall capacity of education through research collaboration of university academics.

Values

1. Goodwill: The essence of education is to guide learners in developing the good side of human nature. To accomplish this, educators have to think positively of their learners.
2. Perseverance: Educational ideals have never been realized easily; therefore, educators have to uphold their holy ideals persistently to the full realization.
3. Creativity: In the face of rapid social change and keen competition, educators must pursue creativity in order to lead and contribute.

Future Development

Faced with globalization and international competition, the College will continue its devotion in the following aspects:
1. The enhancement of student capabilities, including professional competencies, employability and global perspectives.
2. The enrichment of faculty capacities, including academic promotion, research grants acquirement, interdisciplinary collaboration, as well as international research teamwork.
3. The reengineering of organization, including the repositioning, redesign or merger of departments and programs, as well as the integration of human resources, equipments and facilities to enhance efficiency and effectiveness.

Core Course Descriptions

Master’s Program

D0035 Higher Education And University Instruction (0/2) This course includes five components. First, to explore the development and change of ideas and spirit of a university; second, to understand recent development trends and reform direction of higher education in advanced countries; third, to probe current issues, strategies and perspectives of higher education and university instruction in Taiwan; fourth, to inquire the impact of knowledge-base economy upon higher education and university instruction; and finally, to enhance total quality and competitiveness of higher education.
D0037 Qualitative Research (3/3) This course is designed for beginners to acquire fundamental knowledge for conducting qualitative study in educational settings. This course will briefly compare the philosophical assumptions regarding different research paradigms. Different approaches of qualitative study will also be discussed. The emphasis will be put on all aspects of research process, namely formation of research problems, data collection techniques, data analysis and interpretation, standards of trustworthiness and research quality, as well as research ethics. Students are expected to learn to write a research proposal and conduct a pilot study in real educational settings.

D0210 Statistic Methods and Application (3/0) The main purpose of this course is to help students to understand the meaning of statistics in educational research. The content of the course includes t test, one-way ANOVA, ANCOVA, correlation, regression, etc. The course also familiarizes students with statistic software: SPSS. It is expected that through the course, students can apply appropriate statistic methods to solve educational research questions.

D0364 Theory and Application of Emotion Management (3/0) This course aims to familiarize students with some theories and applications of emotion management. It covers the psychology of emotion, the strategies and skills of emotion management, etc.

Innovation and Application of Educational Technology (0/3) This course aims at familiarizing graduate students in the college of education with the new trends and issues of educational technology for teaching and learning. Through weekly topic discussion and hands-on practice, students will be able to integrate the novel technologies and concepts with teaching and learning practice, and also will reflect upon the profession of education.
DEPARTMENT OF EDUCATIONAL TECHNOLOGY

Degrees Offered: B.Ed., M.Ed.

Chair: Ho, Li-an (何俐安)

The Department

Established in 1997, the Department of Educational Technology focuses on the integration of instructional development, media production with digital processing, and human resources development. The curriculum consists of two major areas: (1) educational theories (including instructional development, human resource development and research methodologies), and (2) application of current technology (including digital and analogy media productions).

In order to ensure teaching quality and to help students acquire hands-on experiences with multimedia production, the Department has its own web server, accompanied with two computer laboratories, an audio lab, an IE (Information Experience) Lab, a multimedia lecture room, as well as sufficient hardware and software for digital image processing, animation production, and audio-visual production. The curriculum prepares students for a variety of career positions, such as Web-based instructional designers, multimedia producers, and corporate trainers. To accommodate students with a variety of backgrounds, talents, and interests, multiple methods are used to recruit both undergraduate and graduate students.

Faculty

Professors
Kao, Hsun-fung (高熏芳); Lee, Shih-chung (李世忠); Shyu, Cindy Hsin-yih (徐新逸)

Associate Professors
Chen, Ching-fan (陳慶帆); Huang, Ya-ping (黃雅萍); Chang, Chiung-sui (張瓊穗); Ho, Li-an (何俐安); Cheng, Yi-chia (鄭宜佳); Ku, David Ta-wei (顧大維)

Assistant Professors
Tsai, Ping-yeh (蔡秉燁); Shen, Chun-yi (沈俊毅); Wu, Chun-ping (吳純萍); Lai, Ting-ling (賴婷鈴)

Degree Requirements

1. Requirements for a Bachelor degree in Educational Technology (B.Ed.): Students must complete at least 142 credits of course work, including university required general education (31 credits) and professional education (79 credits) of Educational Technology. Professional education provided by the Department includes required courses (58 credits) and elective courses (21 credits). These professional courses include educational theories, instructional material design, digital media production, training and evaluation.

2. Requirements for a Master's degree in Educational Technology (M.Ed.): Students must complete 27 credits of course work, including 15 credits of required courses and 12 credits of elective courses. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

Course Descriptions

Undergraduate Courses

D0368 Introduction to Educational Technology (3/0) This course covers the fundamentals of educational communications media and technology, including characteristics of media, the teaching-learning process, technology evaluation and utilization of media teaching.

A1207 Evaluation of Instruction (0/3) This course introduces concepts and procedures for evaluating the whole instructional process, including instructional design, instructional content, teacher
performance, and instructional media. Activities include classroom presentation of self-designed instructional unit and various evaluation methods.

A1590 Curriculum Development (0/2) This course presents a systematic process of developing curriculum, including goal setting, objective definition, content analysis, resources allocation, teaching strategies, as well as implementation and evaluation will be discussed. New trends such as integrated curriculum and innovative teaching will be especially discussed.

A1605 Introduction to Human Resource Development (3/0) This course covers basic knowledge and skills of HRD. Topics include values and positioning of HRD, roles and responsibilities of HR specialist, and major HRD functions, such as training and development, organizational development, as well as career development.

A1627 Instructional Design (3/0) This course introduces the concept, models, steps, and functions of instructional design. Students are expected to understand the above knowledge and apply them in team projects.

A1635 Educational Testing and Measurement (0/2) This course discusses the principles of sound assessment as well as methods of testing and measurement in education, including critical roles of assessment, varied assessment methods, and assessment applications.

A1719 Needs Analysis (3/0) The course provides models and techniques for conducting needs assessment. Case studies from various contexts will be discussed in the class. Students will also use the learned knowledge to work on need assessment projects during the semester.

A1725 Special project in Educational Technology (0/3) This course introduces the current trend and issues in educational technology. Students cooperate with their instructor to produce a series of training sessions and products.

A1997 Adult and Lifelong Education (0/3) The major foci of the course are on the concept of individual differences, what they are, and how they affect the learning and teaching of adults.

A2019 Educational Statistics (0/2) This course focuses on the statistical methods for acquiring and analyzing research data, emphasizing empirical methods, and experimental designer. Basic statistical concepts are prerequisite to this course.

A2176 Introduction to Performance Technology (3/0) In this course, a systematic process linking business goals and strategies with the workforce responsible for achieving the goals will be introduced. The human performance technology model including stages such as performance analysis, cause analysis, intervention selection and design, and intervention implementation and change will be explored and discussed in class through various learning activities.

A2178 Organizational Development (0/3) This course presents a process that employs behavioural science knowledge and practices to help organizations achieve greater effectiveness, including increased financial performance and improved quality of work life will be thoroughly investigated. Moreover, concepts like change management, knowledge management will also be discussed.

A2277 Graphic Design (0/3) This course provides the basic knowledge and skills in the art and science of visual communication for students. The field of graphic design combines the human factor and technology with aesthetics in the production of type graphics, signage, publications, identity systems, packaging, film graphics, posters, computer interface design, and other forms of communication.

A2340 User Interface Design and Development (0/3) In this course, students will apply fundamental principles to design, implement, and evaluate user interface for interactive and web-based courseware. Topics will include user and task analysis, low- and high-fidelity prototyping, usability testing methods, iterative design, and research topics such as learning modules, multimedia courseware interfaces, and web learning management system.
D0044 Digital Image Processing, Production and Application (0/3) This course provides solid concepts of digital processing and utilization skills of Photoshop software. Based on the application of this software students will learn how to accomplish different tasks, from retouching photographs to websites, and the competence of evaluating digital images.

D0045 Computer Programming (I), Production and Applications (3/0) This course focuses on the basic training of programming language, and writing for the programs of simple computer games, so that students can write programs to implement instructional materials.

D0046 Computer Programming (II), Production and Applications (0/3) This course focuses on the writing applications of database and programs of computer games, such that students can write programs to implement instructional materials.

D0109 E-learning Courseware Development (0/3) This course requires students to develop an e-learning course to solve a training problem. Students will be challenged with various scenarios. Under the constraints, students will have to develop an e-learning product, and justify its efficiency and effectiveness.

D0130 Digital Audio Editing and Practice (3/0) This course covers the fundamental elements of audio for digital multimedia production. A large component of the course is the "hands-on" operation of audio production equipment. Experience will be gained in the use of audio equipment and software in the design and production of courseware for e-learning.

D0131 Organizational Psychology (0/3) This course focuses on issues related to organizational behavior, leadership, and development; personnel staffing, development, and well-being; and organizational culture and change. Students can apply what they learn in this course to organizations and the workplace. And organizational psychologists can contribute to an organization's success by improving the performance and well-being of its people. Topics in this course also include motivation in the workplace, accommodation, group behavior, team effectiveness, job satisfaction and commitment.

D0139 Digital Video Editing and Practice (3/0) This course provides the basic knowledge and skills in the digital video editing and video production for students. Through the project-based individual/group teamwork the course training and practice the techniques of video production, including storyboard creating, nonlinear video editing, and other specialized professional techniques for electronic video materials.

D0141 2D Graphics Design and Animation Production (3/0) This course is concerned with the fundamental context of 2D animation production which includes the basic tools of animation production, the skills of painting, chromatology design, and other theories of 2D graphical design.

D0142 3D Animation Production (0/3) This course introduces the software of 3D animation- “3D Studio Max”. Students can learn from this course how to model the models and scenes, set the lights and the objects of material, and key frames of animation, and the other fundamental skills in 3D animation production.

D0166 English for Educational Technology (0/3) The purpose of this course is to enhance students' English ability through engaging in activities designed for the field of educational technology. Students will work individually and cooperatively to practice their reading, writing, speaking, and listening skills on various educational technology topics.

D0167 Design and Practice of Interactive Courseware (3/0) This course reviews basic courseware features, analyzes methodologies for multimedia-based learning, and discusses activities relevant to designing and developing multimedia projects. Students are required to evaluate a multimedia courseware and integrate the courseware into a lesson plan.

D0184 Learning Strategy and Technique (0/3) The purpose of this course is to present the foundation and application of learning strategies and techniques, including psychological theories, earning style, learning strategy, thinking strategy, and knowledge management. Students will have
opportunities to conduct a case study to observe and evaluate participants' learning strategies and techniques.

**D0198 Introduction to Distance Education (0/3)** This course deals with the fundamental themes in distance instruction, with an emphasis on knowledge relevant to web-based instructional design. Planning, analysis, design, development, implementation, and evaluation of distance instruction systems in educational setting will be discussed in this course.

**D0200 Training Practice in Industry (0/3)** This course emphasizes analyzing, designing, developing, implementing, and evaluating training for business and industry.

**D0262 Webpage Design and Development (0/3)** This course covers webpage design and development using an instructional design model. Specific webpage design principles will also be covered. Students will create a course website and conduct usability testing during the evaluation phase. Revision of the website based on results of usability testing is required.

**D0297 Rapid E-learning Tools Application and Production (0/3)** This course introduces various multimedia e-learning courseware builders. Students have to understand the characteristic of various software and use them in the most effective situation. Students also have to integrate and instructional theories to establish an ideal e-learning course.

**D0298 Basic Training of Digital Content Production (3/0)** This course introduces several multimedia authoring tools. Students are required to master the major functions and use them to accomplish multimedia projects.

**D0299 E-Learning Program Adaption and Management (0/3)** The aim of this course is to help students understand the model and process of e-learning adoption and management. Topics include platform selection plan, course development strategy, project team management, diffusion strategy and project proposal writing. Real cases selected from local companies and educational settings will also be discussed in this course.

**D0300 Digital Education TV Program Production (3/0)** The aim of this course is to help students understand basic TV production process, including pre-production, production, and post-production. Students will learn to incorporate lighting, audio, camera movements, camera operation, and picture compositions skills to produce an educational program.

**D0303 Information System, Production and Applications (3/0)** In the course, students not only learn how to implement PHP programs on the Internet, connect PHP programs with my SQL database, but also manage their database systems, and use the mechanism to construct Internet applications systems.

**D0304 Interactive Learning Materials Design (0/3)** The goal of the course is to help students understand Flash and write interactive action scripts. Through the Internet, students will implement dynamic multimedia information systems presented on the Internet.

**D0305 Instructional Principles and Strategies (3/0)** This course explores the basic concept of instruction, including learning theories, factors of instruction, events of instruction, teaching strategies, evaluation of learning effect, and instructional design. Students learn to apply the theories and practices through group discussions as well as group projects.

**D0331 Digital Audio Editing and Practice (3/0)** This course provides students with an opportunity to apply the knowledge, skills and dispositions acquired through Educational Technology program coursework to industrial, business or government environment. During the internship experience, the intern will apply academic principles to the solution of practical problems in the various areas of Instructional Technology. Intern is responsible for planning, carrying out, and reporting on projects assigned.

**D0332 Introduction to E-learning (3/0)** The aim of this course is to help students understand basic issues about eLearning development, including methods and applications for advance technologies, and learning & instructional strategies for eLearning. Topics will cover mobile learning, digital learning
and simulation in school and company training aspects. This course will also provide important issues needing addressed for a successful eLearning in different learning settings.

**T0081 Survey Method (3/0)** This course provides a broad overview of identifying research questions, designing research strategies, retrieving and organizing literature, determining research methods, and examining the theory and practice of both quantitative and qualitative research. Students will have opportunities to clarify their own research questions and write research proposals with relevant research designs.

**T0145 Educational Psychology (0/3)** This course describes theories of human developments, learning processes, behavior changes, and cognitive psychology by introducing several psychologists. Through case studies and class activities, students will learn to observe and analyze educational problems from aspects of individual differentiations, learning motivations and conditions, and knowledge-related factors. They will also learn to provide possible solutions by initiating educational strategies using principles taught in the course.

**T0994 Applied Project in Educational Technology (2/2)** This course requires students to integrate their educational technology knowledge and skills, follow the process of ADDIE model, and actually produce a product of professional level in the training area.

### Master’s Program

**A1076 Educational Communications and Technology (3/0)** This course covers the present, past, and future of educational technology, while helping individual students develop personal understanding of and orientation to the field.

**A1121 Learning Psychology (3/0)** This course addresses different aspects and processes of how people learn, including behaviorist views, social learning theory, cognitive views, memory, transfer, problem solving, motivation, etc.

**A1384 Qualitative Research (0/3)** This course is designed to have 18 units divided into three big categories, namely research process, research methodologies, and research methods. In research process section, there are brief introduction to research design, research ethics, validity and reliability, data collection, data analysis, and report writing. In research methodology, theoretical paradigms such as biography, case study, action research, phenomenology, ethnography, and grounded theory are taught. In research methods, students learn to conduct field study, participant observation, in-depth interviews, focus groups, questionnaires, and content analysis.

**A1605 Human Resource Development (0/3)** This course covers the entire field of HRD, from orientation and skills training to career development and organizational development will be discussed. In addition, related concepts, processes, and practices form the basis of successful HRD will be discussed.

**A1606 Diffusion of Educational Innovations (3/0)** This course focuses on several aspects regarding the implementation of educational innovations. Models of diffusion of educational innovations will be investigated. Particularly, elements relating to the innovation decision process including knowledge, persuasion, decision, implementation and confirmation stages will be discussed comprehensively. Concern-Based Adoption Model and change management will also be studied.

**A1627 Instructional Systems Design (0/3)** In this course, models and theories of instructional design will be introduced and discussed for planning and developing instructional (training) programs. Completion of an ISD project using any ISD models is required to assure that students acquire the knowledge and skills essential to perform procedures of ISD.

**A1719 Needs Assessment (3/0)** This course is concerned with the theory and practice of needs assessment. Case study is employed as a learning method. Students also conduct needs assessment project in groups.
D0367 Topics on Educational Technology (3/0) This course covers various issues concerning educational technology. Each week a topic is introduced and discussed. Students will reflect on the issues and conduct a presentation at the end of the semester.

A1785 Educational Statistics (0/3) This course focuses on basic statistical concepts and applications. Important concepts include: population and sample, random sampling, normal distribution, and standard scores; applications include correlation and regression, the idea of hypothesis test, t-test, Chi-square test, and analysis of variance.

A1829 Seminar on Educational Training (3/0) This course covers the theory and practice of modern management as applied to training program and the role and responsibilities of the training manager, including the analysis, design, implementation, evaluation, and marketing of training processes. In this course, students will be able to understand contemporary theories and methods of training as well as have the opportunities to explore authentic cases of training programs.

A1870 Message and Interface Design (0/3) The goal of this course is to advance students' message development knowledge and skills of graphics, text, sound and animation. This course also introduces the concepts and technology necessary to design, implement, and evaluate user interfaces.

A1999 Design and Development of Multi Media Web-Based Environments (0/3) This course provides students a basic knowledge of designing and developing web-based multimedia courseware. Aspects of theory include psychology principles and research on multimedia learning. Students will have the opportunity to apply knowledge and skills to design and develop their multimedia courses.

A2018 Web-Based Instruction and Learning (3/0) This course presents an introduction to instructional computing via the World Wide Web. Special emphasis is placed on using the WWW as learning "with" technology, such as cognitive tools and constructivist learning environments. Literature reviews, e-course evaluation, and e-learning activities design are major tasks in this course.

A2075 Project Management and Evaluation (0/3) This course examines the organization, planning, and controlling of projects and provides practical knowledge on managing project scope, schedule and resources. Topics include project life cycle, work breakdown structure and Gantt charts, network diagrams, scheduling techniques, and resource allocation decisions. Concepts are applied through team projects and tutorials using project management software.

A2176 Performance Technology (3/0) This course encompasses the theory and practice of analyzing, designing, implementing, and evaluating instructional and non-instructional solutions for all levels of human learning and performance problems. In this course, students will be able to define the purposes and functions of performance technology, analyze organization's performance problems and identify their causes, select the most appropriate performance improvement interventions, define the steps and critical components of the implementation plan, and evaluate the effectiveness of performance improvement interventions.

A2211 Distance Education (0/3) This course deals with the fundamental themes of distance instruction, with an emphasis on knowledge relevant to web-based instructional design. Planning, analysis, design, development, implementation, and evaluation of distance instructional systems in an educational setting will be discussed in this course.

D0076 Production of Instructional Web-based Materials (3/0) In this course, students will explore several software and e-learning platforms of open source to construct an integrated environment in which our students can design and implement e-learning contents. Students will also create learning contents through Flash or some screen video capture tools, and build theses learning contents in our e-learning platforms.

D0110 E-Learning Theory (0/3) This course addresses learning theories appropriate for e-learning environment. Students will have the opportunity to illustrate various perspectives represented by these theories and apply them to analyze and solve e-learning problems.
D0118 Seminar on E-Learning (0/3) This course focuses on the current issues of e-learning. Topics include: platform of e-learning, instructional design of e-learning, professional roles of e-learning, evaluation of e-learning, teaching strategies of e-learning, trend of e-learning, and more.

D0206 Educational Evaluation (0/3) The purpose of this course is to convey several issues regarding the evaluation in educational setting. The philosophy, purpose, models, procedures, as well as standards on implementation of evaluation will be discussed. Particularly, evaluation of instructional design, instructional resources, instructional behavior (teaching evaluation), curriculum (program) evaluation and educational system evaluation will also be addressed.

D0207 Interaction Design of E-Learning (0/3) This course covers the study of principles and applications of human-computer interactions within the context of a rich constructivist learning environment. The topics discussed in this course will focus on interaction between (1) learner and learner, (2) learner and teacher, and (3) learner and e-learning material.

D0234 Instructional Design in E-Learning (3/0) This course aims at introducing students to the essential elements of Instructional Design (ID) in e-learning, and providing an overview of the fundamental principles, processes and practices that currently shape and define ID. Students are expected to apply the major steps of the ID model in developing an e-learning courseware.

D0235 Design and Production of Instruction Web-Based Materials (0/3) Students will explore several software and e-learning platforms of open source to construct an integrated environment in which our students can design and implement e-learning contents. Students will also create our learning contents through Flash or some screen video capture tools, and build these learning contents in our e-learning platforms.

D0236 E-Learning Courseware Design (3/0) This is an asynchronous online course that teaches creation of web-compatible resources using current web technologies.

D0269 Corporate Training Practices (3/0) This course focuses on practical skills and knowledge that students will need in pursuing jobs such as training specialists in the corporate setting. Course topics include corporate value chains, roles and responsibilities of a training specialist/trainer, and ways to design and evaluate a training program. It also introduces three types of computer software widely applied in the corporate setting: MS Project, MS Excel, and MS Access.

T0081 Research Methods (3/0) This course discusses the procedures and methodology for conducting research in education, including research question, defining variables, hypothesis testing, literature review, research design, writing a research proposal and paper.
GRADUATE INSTITUTE OF
EDUCATIONAL POLICY AND LEADERSHIP

Degree Offered: M.Ed.

Chair: Wu, Ming-ching (楊瑩)

The Institute
History
The Graduate Institute of Educational Policy and Leadership was founded in 2000. The Institute is committed to the training of educational policy, administration and management professionals. To promote continuing education and lifelong learning, a Master’s professional training program was established in 2002. The Institute offers courses or programs in the following two specializations: (1) education management and administration; and (2) higher education, since its merger with the Graduate Institute of Higher Education in the 2008-2009 academic year.

Goals
The goals of the Institute include:
1. The ultimate goal of the Institute on the whole is to prepare students for careers as professionals in educational policy and administrative leadership, and to promote the quality of professionals.
2. The goal of the section of education management and administration is to equip students with the ability to analyze educational policies and administrative leadership, both in theory and practice.
3. The goal of the section of higher education is to equip students with insightful knowledge of the higher education system and trends of policy reform, and students will be able to conduct research and administration in the field of higher education.

Faculty
The Institute currently has 7 full-time faculty members (4 professors and 3 assistant professors) and 2 part-time faculty members (1 professor and 1 associate professor). The full-time faculties are as follows:

Professors
Chang, Chia-i (張家宜); Gai, Che-sheng (蓋浙生); Wu, Ming-ching (吳明清);
Chan Yang, Ying (楊瑩)

Assistant Professors
Chen, June S. (陳錫珍); Hsueh, Hsiao-hua (薛曉華); Nyeu, Fong-yee (妞方頤)

Course Descriptions
The courses of the Institute are divided into four categories:
1. Core Courses: Core courses include two different areas, namely special courses of the university and courses in educational research methods.
(1) Special courses of the university
Students are required to choose one of the following 4 courses:

A2122 Education & Futures Studies (2/0) This course explores educational issues from a futures perspective that includes future studies, education and learning trends, basic research tool and technique, education future in knowledge economic society, learning revolution, curriculum and instruction innovation, and information technology.

A2219 Seminar in International Education (2/0) This course examines key topics in international education. Particular attention will be paid to current issues and debates in the field regarding the nature of development and international education.
A2217 Information Technology in Education (0/2) This course introduces various ways of applying information technology to education. Some related issues are addressed as well. Furthermore, diffusion of information technology in elementary and secondary schools is discussed, and finally some real cases are analyzed.

A2218 Total Quality Management in Education (0/2) This course provides a fundamental, yet comprehensive, coverage of quality control concepts. Topics covered include quality-improvement techniques, control charts for variable, control charts for attributes, loist-by-lot acceptance sampling by attributes, acceptance sampling plan systems, quality costs, and total quality management.

(2) Required courses in educational research methods

A2129 Research Methods in Education (3/0) An introduction to research methods and theories of research. Methods discussed include qualitative and quantitative approaches to research in the field of education, such as surveys, case studies, ethnography, participant observations, and interviews.

M0288 Educational Statistics (3/0) This introductory statistics course provides students with basic concepts of statistics methods, including probabilistic model, statistical inferences, hypothesis testing, linear regression model, and analysis of variance.

2. Professional foundation courses

(1) Common required courses for both sections:

D0150 Leadership and Management in Education (2/0) A comprehensive guide to understanding and development of leadership theory and practice in education, including the trait theory, contingency theory, situational theory, transformational theory, knowledge management and instructional leadership, etc.

(2) Required courses for education management and administration section

D0162 Seminar on Educational Policies (2/0) This course focuses on exploring policies relevant to lifelong education. Areas of concern include the idea of lifelong education, theoretical foundation of lifelong education, review of policies concerning lifelong education and promotion of strategies of lifelong learning, and finally development of a complete system targeting at a lifelong learning society.

A2269 Seminar Organizational Behavior in Education (0/2) This course provides students with fundamental knowledge in the field of organizational behavior, including individual behavior, values, personality and emotions, perception and individual decision making, motivation, communication, power and politics, conflict and negotiation, human resource policies and practices, organizational cultures, change and stress management, etc.

A2332 Multicultural Education (2/0) This course explores issues related to multicultural education. It aims to develop students’ sociological, historical, and global perspectives while dealing with issues relevant to race, ethnicity, gender, and culture.

A3382 Educational Reform and Educational Policies (0/2) The main objectives of this course are: 1) To prepare students for participation in the process of educational reforms in the future; 2) To help students understand important theories, concepts and issues concerning educational reforms in Taiwan; 3) To sharpen students’ critical thinking and analytical skills in the face of major policies and issues concerning educational reforms.

A3384 Seminar in Curriculum Planning (2/0) This course provides students with fundamental knowledge of curriculum planning and its applications and practices in schools.

A3385 Finance Policy & Education Finance (0/2) In this course, we argue that it is not sufficient to teach students only formulas, indexes and ratio, tax collections and distributions without reference to education. The study of financing in education should not merely reflect the floating whim of current popular opinion, but rather it should be couched in principle that justify the expenditure of public and private resources for education.
D0295 Comparative Higher Education (0/2) This course is designed to enrich students’ knowledge of higher education systems and policy reforms in different countries, and to develop students’ competence in doing comparative analysis of higher education.

D0226 Policy Analysis in Higher Education (0/2) This course is organized into four parts. First it refers to policy analysis as a professional activity and is client-centered. This part raises some ethical issues based on this idea. The second part provides an overview of rationales for policy solutions as starting points for crafting specific policy alternatives. The third part gives practical advice for doing policy analysis: structuring problems and solutions, gathering information measuring cost and benefits, anticipating and influencing policies and organizational feasibility, and designing programs with good prospects for successful implementation. The fourth parts presents several extended examples illustrating how analysts have approached policy problems and the differences that their efforts have made.

3. Elective courses

A0165 Seminar on Educational Policy and the Law (3/0) Educational policy and the law is not traditional “school law,” and we have sacrificed certain topics that are typically featured such as the tort and contract liability of education (each level of education) in an effort to address fully issues that appear to have greater vitality. This course does not treat “the law” as an isolated entity, but rather focuses on the interaction between legal decisions and educational practice.

A1384 Qualitative Research (0/2) This course covers topics related to research paradigm shift, qualitative research design, data collection techniques, research finding interpretation and report writing.

A1588 Sociology of Education (3/0) This course studies educational content from a perspective of sociology which includes the construction of the classroom, teacher/student relationships, the organizational climate, professional organizations, and the impact of family, community, culture, politics, economics and social movements in education.

A2125 Study of the Analysis of (Compulsory) Education Policies (2/0) The main objectives of this course are: (1) making students understand current major compulsory education policies; (2) analyzing the merits and differences of each educational policy; (3) criticizing and participating in the process of forming key educational policy.

A2127 Sociology of Education (3/0) This course studies educational content from a perspective of sociology which includes the construction of the classroom, teacher/student relationships, the organizational climate, professional organizations, and the impact of family, community, culture, politics, economics and social movements in education.

A2222 Economic of Education (3/0) The purpose of this study is to provide disciplinary conceptions to the students. Chapter 1 provides a brief introduction, followed by short discussion, in chapter 2 of the role human capital and the economics of education in early writings. Chapter 3 through 4 presents the production and cost functions in education, a topic devoted to a discussion of the internal efficiency of educational system. Educational finance follows in chapter 5-6; topics include the role of government in education and the voucher plan. An overall summary, major conclusions, and some suggestions for research conclude the volume in chapter 7.

A3386 Human Resource Management in Education(0/2) The purpose of this course is to enable students to become knowledgeable of human resource management models, theories and practices in the field of education. Major issues examined in this course include human resource planning, compensation, career planning, job analysis and design, recruitment, selection and hiring, performance evaluation, job safety, and legal aspects of human resources administration.

A3388 School Organizational Change and Leadership (0/2) This subject begins with an exploration of the meaning and assumptions of school organizational change and leadership, then followed by a practical analysis of the nature of current school reform movement and school leadership.
D0080 Ethics of Education Administration (0/2) This course is organized into five parts. The first part explains the essence and context of ethics in education administration. The second part discusses the principles and approaches of ethics in education administration. The third part familiarizes students with the ethic codes of education professional personnel. The fourth part is devoted to exploration of developmental trends of ethics in education administration in UK and USA. The fifth part aims to discuss the development of professional ethics in education administration in Taiwan.

D0168 Educational Policies in China & Taiwan (0/2) The purpose of this course is to examine various perspectives on current issues in education between China and Taiwan. Lectures and discussions will explore the roles that education plays within the broader context of development and global change. Major and minor educational actors in the international community will be analyzed.

D0085 School-based Curriculum & Instruction Leadership (2/0) This course is designed to investigate theories and practices of curriculum and instruction leadership, including their concepts, principles, strategies, problems and issues.

D0096 Present Education Policy Analysis (2/0) Currently, Taiwan is under the period of educational reform. Many new education policies were created and implemented. The objectives of this course are to introduce the contents of these education policies as well as to analyze the possible impacts of these policies upon Taiwan’s society. Before-class literature review is required for every student. Both instructor’s lecture and group discussion strategies are used in classroom.

D0163 Organization Behavior in Education(0/2) Introduces foundations of individual behavior, values, personality and emotions, perception and individual decision making, motivation, communication, power and politics, conflict and negotiation, human resource policies and practices, organizational cultures, change and stress management, etc.

D0168 Educational Policies in China & Taiwan (0/2) The purpose of this course is to examine various perspectives on current issues in education between China and Taiwan. Lectures and discussions will explore the roles that education plays within the broader context of development and global change. Major and minor educational actors in the international community will be analyzed.

D0203 Seminar on School Effectiveness (0/2) This course provides an overview of the concept and practice of school quality and effectiveness, and covers its theory, model, research, evaluation and future trends.

D0214 Evaluation of Higher Education (3/0) This course aims to review and compare the higher education evaluation system on the whole. Its goals are to help students understand the different types of evaluations in higher education, its origins, development and existing systems in different countries, including the EU. In addition, this course, by requesting students to collect the most updated information concerned, to submit reports, and to present their findings in the class, it is helpful for students to strengthen their ability to search data from the library, internet websites, as well as for providing students with opportunities for exchange of ideas, opinions, and learning experiences.

D0216 Higher Education and Globalization (0/2) This course discusses the development of globalization and higher education, including governance, history, organization and external forces; autonomy, accountability , academic freedom, and the academic community. This course mainly aims to advance knowledge about globalization and higher education. There are a number of global challenges and opportunities faced by higher education managers and key decision-makers; factors such as quality assurance, the changing profiles of academic and student populations, international competition, and the opportunities afforded by flexible learning.

D0220 Higher Education and National Development (2/0) This course offers a general introduction to higher education and development. In order to take full advantage of the changing climate of higher education, institutions need to be positioned and organized effectively. With much emphasis on change and developing best practice in higher education, it is essential that those involved in developing, researching or implementing approaches to teaching, learning or management are aware of the experiences of others. This course looks at changing practice in higher education: how developments come about; what research underpins desirable development; and the impact of development of student learning, staff expertise and institutional practice and policy.
**D0222 Emerging Issues in Higher Education (0/2)** Lectures and discussion in a roundtable seminar in emerging issues in higher education: current issues of central importance to the academy: leadership, accountability, access, finance, technology, academic freedom, the canon and the curriculum, governance, and race. This course also deals with key constituencies -- students and faculty -- in the context of a changing academic environment. This course also takes issues with the "crisis" culture that has emerged among critics of current higher education practices, pointing out that higher education has faced challenges through its history.

**D0224 Management of Higher Education (0/3)** Higher Education management is an intensive course devoted to the examination of concepts and management practices in higher education system. The course is intended to provide prospective college and university administrators with both a theoretical and working knowledge of techniques, issues, policy, and practices as they are related to management and administration of colleges and universities in the U.S. and Taiwan.

**D0293 Seminar on the Design of Education Policy** This is an introductory course of strategic planning aiming to enhance students’ competency of educational planning and management to prepare themselves for their future professional career. Learning activities include intensive readings, seminar discussion and a field study.

**D0306 Seminar on Educational Evaluation.** This course introduces to students educational evaluation theories and methods and discusses several evaluation models including goal-oriented, management-oriented, participant-oriented, consumer-oriented, adversary-oriented, and expert-oriented models. Through the examination of different types of educational evaluations and the opportunity to design evaluation plans, students will be equipped with evaluation-related knowledge and skills.

**D0308 Seminar on School Curriculum & Instruction (2/0)** This course aims to explore main theories and practices relevant to curriculum and instructional leadership.

**D0311 Theories and Practices of Non-Profit Organizations** This course examines important issues in the governance and strategic management of nonprofit organizations and provides students with an overview of nonprofit management concerns and practices. Lectures, course projects and discussions will be organized to expand the management skills of students by building analytical tools and knowledge.

GRADUATE INSTITUTE OF EDUCATIONAL PSYCHOLOGY AND COUNSELING

Degree Offered: M.Ed.

Chair: Li, Li-chun (李麗君)

The Institute

In response to the increasing importance and need of psychological counselling in communities, families and schools, the Graduate Institute of Educational Psychology and Counselling was established in 2002 to cultivate professional counsellors and teachers for communities, all levels of schools and institutions. The goals of the Institute are as follows:

1. To train students as professional counselors and teachers with psychological and counseling expertise.

2. To develop students’ theoretical and academic research capabilities.

3. To strengthen students’ professional competency conforming to the needs of psychological counseling in all levels of education, communities and institutions.

4. To enhance students’ occupational competitiveness by offering disciplinary synthesis of educational psychology and psychological counseling.

5. To broaden and diversify teachers’ and students’ visions through the integration of theories and practices.

6. To equip students with adequate knowledge and competency for attaining professional certificate.

The curriculum places an equal emphasis on educational psychology, counselling theory, and practice. The curricular structure includes research methodology, psychological foundation courses, areas of specialization and practicum. The courses of educational psychology emphasize diagnosis of learning difficulties, teaching and learning strategies, teaching performance assessment, and teacher effectiveness, etc. The courses of counselling emphasize systematic theories and practices of psychological assessment, group dynamics, expressive arts therapy, career counselling, school counselling, family therapy, and play therapy, etc.

The Master of Education degree requires a successful completion of 32 credits of coursework, including 15 credits of required courses and 17 credits of elective courses. Students are also required to submit a written master's thesis completed under the supervision of a faculty member and pass an oral examination.

Faculty

Professors
Ko, Chih-en (柯志恩)

Associate Professors
Li, Li-chun (李麗君); Yang, Ming-lei (楊明磊); Han, Kuei-hsiang (韓貴香)

Assistant Professors
Lin, Shu-ping (林淑萍); Kuo, Li-Yen (郭瓈灐)
Course Descriptions

D0024 Educational Psychology (3/0) This course presents an advanced study of the theories and processes of educational psychology at school levels, especially in relation to current research in identifying major variables in the teaching-learning process and theories and principles of learning.

D0025 Theories of Counselling and Psychotherapy (3/0) This course covers historical and contemporary theories of counselling, advanced study of techniques, and research findings.

D0026 Counselling Practice and Techniques (3/0) This course offers an introduction to major theoretical orientations to the counselling process and techniques, laboratory experience in case conceptualization and counselling skills.

D0027 Seminar on Transpersonal Psychology (0/2) This course explores Western and Eastern theories related to spiritual development and the intersections of psychological growth and development with spiritual belief and experience, and discusses the historical origins and theoretical foundations of transpersonal psychology.

D0028 Learning Strategies (0/3) This course presents history and systems of psychology applied to education and modern theories and current research in learning strategies and human motivation, especially in relation to the educative process.

D0029 Group Counselling (0/3) This course covers the study of group counselling methods and techniques; review of basic theories of group process; exploration of group process through group interaction, didactic analysis and synthesis.

D0030 Developmental Psychology (0/2) This course introduces all periods of life and takes a life-span perspective on all phases of life, including childhood.

D0031 Family and Marriage (0/2) This course is designed for students who work with couples and families in a professional setting. It examines major family and marriage theories and research, counselling, skill development communication, and marital/family enrichment.

D0032 Abnormal Psychology (3/0) This course aims to help students understand the definitions and fundamental philosophical issues of abnormality. The course also contains classification of abnormal psychology as Anxiety Disorders, Mood Disorders, Schizophrenia, Personality Disorders, Childhood Psychopathology, Psychoactive Substance Use Disorders, and psychological factors of physical illness, and comparisons of different theoretical approaches.

D0041 Learning Diagnosis and Guidance (3/0) This course focuses on how to detect and diagnose students with learning difficulties, and discusses what kinds of assistance or guidance can be provided for those students.

D0042 Internship of Educational Psychology and Counselling I (2/0) This course provides a supervised practice in a human services agency (approved by the College) focusing on the development and direct practice of human services professional skills. Prerequisites: senior standing; admission to Professional standing.

D0043 Internship of Educational Psychology and Counselling II (0/2) This course provides a supervised practice in a human services agency (approved by the College) focusing on the development and direct practice of human services professional skills. Prerequisites: senior standing; admission to Professional standing.

D0067 Studies in Mental Health of Community & School (0/2) This course provides knowledge and skills in the development and management of school and community guidance programs, including program planning, structuring, implementing, and evaluating.

D0068 Social Psychology (2/0) This course presents an examination of issues, theories, and research in selected areas of social psychology and other behavioral sciences that have implications for education and higher education policies, programs, and practices.
D0069 Seminar on Family Therapy (0/2) This course covers the theories and methods of many of the major family therapy theories including: strategic, brief strategic, systemic, narrative, family of origin, structural, and symbolic-experiential family therapy.

D0072 Ethical Issues of Counselling (2/0) This course presents legal and ethical concepts and issues relevant to the practice of psychology and student personnel services.

D0073 Seminar on Adolescent Problem Behaviors (0/2) This course covers psychological assessment and dynamic intervention of adolescent problem behaviors and develops. The integration of solution-focused, narrative, cognitive-behavior and family system approaches is emphasized.

D0075 Career Counselling (0/2) This course presents methods and programs for facilitating the career development of individuals over the life span. Organization and development of activities and programs for all ages are emphasized.

D0105 Seminar on Jungian Psychology (2/0) This course investigates C.G. Jung’s theory and his therapeutic approach. Jungian approaches to various cultural phenomena interact with Taiwanese personal psyche will also be examined.

D0114 Supervised Counselling Practicum (I) (2/0) In this course, students are required to fulfil six-hour weekly part-time practicum experience in community agencies. Through supervised professional work in different community service setting, students gain knowledge via hands-on direct psychological services.

D0115 Supervised Counselling Practicum (II) (0/2) Upon completion of all courses, students gain one year of practicum experience in community agencies. Through supervised professional work in different community service settings, students gain experience in applying a variety of intervention strategies and psychological services across the spectrum of psychopathologies.

D0116 Express Arts Therapy (0/2) This course provides the knowledge and theories of express art therapy to help students analyze the therapy process. It also offers experimental express art group for students in order to put theories into practice.

D0117 Seminar on Psychological Measurement & Assessment (0/3) This course provides group and individual, assessment of cognition, behavior, emotion and personality, as well as their theoretical and statistical bases, construction, administration, interpretation of instruments, and evaluation theory and practice.

D0210 Statistic Methods and Application (3/0) The main purpose of this course is helping students understand the meaning of statistics in educational research. The content of the course includes t test, one-way ANOVA, ANCOVA, correlation, regression, etc. The course also familiarizes students with statistic software: SPSS. It is expected that through the course, students can apply appropriate statistic methods to solve educational research questions.

D0221 Children and Adolescence Psychotherapy (0/2) The aim of this course is to provide the theories and skills of children and adolescence psychotherapy, in order to help students analyze the therapeutic process.

D0249 Children Psychotherapy (0/2) The aim of this course is to provide theories and skills of children psychotherapy, in order to help students analyze the therapeutic process and working with the family.

D0264 Introduction to Qualitative Research (3/0) This course is designed to have 18 units divided into three big categories, namely research process, research methodologies, and research methods. In research process section, there are brief introduction to research design, research ethics, validity and reliability, data collection, data analysis, and report writing. In research methodology, theoretical paradigms such as biography, case study, action research, phenomenology, ethnography, and grounded theory are taught. In research methods, students learn to conduct field study, participant observation, in-depth interviews, focus groups, questionnaires, and content analysis.
D0361 Counseling Intake Skills (0/1) The objective of this course is to familiarize graduate students with the procedural and skills of intake. This course covers the evaluation of clients’ problems and needs, the strategies of following arrangement, skill practice and practicum.

T0081 Research Methodology (0/3) The main purpose of this course is to provide students with a basic knowledge of research. Through the course, students will be able to learn the process of conducting a research, features of different research methods, and APA writing style.

T8000 Thesis (0)
GRADUATE INSTITUTE OF CURRICULUM AND INSTRUCTION

Degrees Offered: M. Ed.

Chair: Yu, Chia-cheng (游家政)

The Institute

The Institute of Curriculum and Instruction was established in 2007 to promote in-depth research and knowledge about local and global curricular and instructional issues. Our mission is to prepare global-minded leaders and professionals for better curriculum and instruction at all levels. We value scholarship, policy and practice in areas of curriculum development, implementation, innovation, and teacher development. Students will also be oriented toward concerns for multiculturalism, technological development, and critical perspectives in curriculum and instruction and deliberate change possibilities for a world that is increasingly interdependent.

Faculty

Professors
Chang, Ya-fung (張雅芳); Yu, Chia-cheng (游家政)

Associate Professors
Hsu, Chia-ling (徐加玲); Ju, Huey-fang (朱惠芳); Huang, Ru-chieh (黃儒傑); Sung, Pei-fen (宋佩芬)

Degree Requirements

Requirements for a Master’s degree:
Completion of 32 credits, including 9 credits of required courses and 23 credits of elective courses. Students are also required to submit a written master's thesis completed under the supervision of a faculty member, and pass an oral examination.

Course Descriptions

Master’s Program

D0252 Curriculum Theories (3/0) This course explores modern and postmodern theories related to foundations of curriculum research. Discussions will focus on analysis of their contributions or applications, limitations and debates pertaining to curriculum practices and issues.

D0253 Theories of Teaching and Learning (3/0) This course aims to explore various theories of teaching and learning. In addition, instructional applications based on these theories will be discussed, and their contributions as well as limitations will be analyzed. Furthermore, the results of some empirical studies in Taiwan will be examined for instructional effectiveness of contemporary teaching and learning theories.

D0254 Globalization and Educational Development (3/0) This course explores theories and arguments surrounding globalization and recent educational restructuring. Class discussion particularly examines the impacts of globalization on education, as they relate to economic development, technology, identity, multiculturalism, language, educational policies, and school curriculum.

D0256 Seminar on Curriculum Development (3/0) This course explores the principles and elements of curriculum development, major curriculum design models, curriculum implementation and evaluation. A critical analysis will focus on national curriculum standard or framework, school-based curriculum development, textbooks censorship and adoption, curriculum dilemmas and reform.
D0257 Seminar on Curriculum and Instruction in Globalization (0/3) This course deals with issues of curriculum and instruction in the era of globalization. Seminar topics could range from curricular and instructional changes in major countries, issues of policy and implementation in different contexts, to global education and the pursuit of global citizenship in various parts of the world.

D0259 Inquiry on Classroom Teaching and Learning (0/3) This course examines current theories and practices on the issues of classroom management, assessment, community building, critical thinking, and decision making in the context of actual classroom experiences. Students will develop practical strategies, and investigate how to affect children’s learning in the classroom, and reflect on their own thinking.

D0260 Seminar on Curriculum Evaluation (0/3) Analysis of evaluation approaches and models applied to curriculum or program in formal and informal educational settings is central to this course. Discussion will include evaluation plan, methods of inquiry, standards and judgment, explanation and utilization, and meta-evaluation of curriculum evaluation.

D0279 Action Research in Curriculum and Instruction (0/3) This course aims to investigate the meaning and methodology of action research as well as its application in the field of curriculum and instruction. Topics such as the characteristics, method, and procedure of action research will be introduced. Some cases utilizing the approach of action research will be examined as well.

D0281 Technology and Subject Teaching (3/0) This course studies the theory and practice of technology in school settings. Students will explore the relationship between technology and school subjects and how technology becomes essential in today and future learning. The goal is to provide students with the knowledge of technology in education and skills to practice that knowledge in their teaching and research.

D0282 Inquiry on Comparative Curriculum (0/3) Globalization increases international communication and borrowing in curriculum and instruction. This course studies the historical, political, cultural and relevant contexts of different countries in an attempt to understand reasons for the similarities and differences.

D0283 Teaching Evaluation and Supervision (0/3) This course introduces the theories and practices of evaluation and supervision on teaching and learning. Topics include definitions and purposes of teaching evaluation and clinical supervision, criteria and processes of teaching evaluation, as well as tools and techniques for classroom observation, feedback and follow-up meetings. Opportunities are provided for developing clinical skills.

D0284 Seminar on Teacher Professional Development (3/0) Teacher professional development plays an essential role in successful education reform. Teachers need to meet new challenges to guide all students and achieve higher standards of learning. Teacher professional development refers to relevant content, strategies, and organizational supports that ensure the preparation and career-long development of teachers.

D0285 Multicultural Curriculum and Instruction (3/0) True democracy requires a citizenry that embraces multiculturalism. Multicultural curriculum and instruction helps establish multicultural values, and enables teachers to design and instruct multicultural curricula. Students will explore their own values and multicultural experiences, understand how different ethnic groups, including “new Taiwanese children”, encounter learning difficulties, and seek to make changes in the curriculum and instruction.

D0319 Seminar on Sociology of Curriculum (0/3) This course Sociology of Curriculum aims to explore the historical development, the main theoretical paradigm and the explanation criterion of this subject by means of reading the important documents of Sociology of Knowledge from western academies. Moreover, students are expected to think thoroughly how to enhance our experimental understanding of educational knowledge, which includes curriculum, teaching and evaluation, via sociological analysis. The core issues are as follows: What is school knowledge? What is the relationship between school knowledge and commonsense knowledge? What are the principles of choices, classification, organization, delivery and evaluation of the curriculum? What is the
relationship between the politics, the economics, and the cultural structure and the development of courses? What are the possible changes and transformations of educational knowledge?

D0324 Seminar on Curriculum Reform (3/0) The aim of the course is to understand modern and post-modern theories related to school curriculum reform, including its approaches, elements, limitations and trends. Cases from elementary and secondary schools will be analyzed, and discussions will emphasize teachers’ roles and teacher leadership in school curriculum reform.

D0325 Seminar on Curriculum and Instruction for Future Schools (3/0) The course explores curriculum and instruction issues in the schools of the future. Through course reading and discussion about the future, the course aims to expand students’ vision on the “real” purpose of education at the present time.

D0326 Issues of Teaching for Higher Education (0/3) This course aims to help students understand the theoretical concepts, the developmental procedures, the practical methods, the revolution and the vision which are related to undergraduate curriculum by means of working on some critical essays and dissertations. It is expected that graduate students can cultivate pioneering and reflective thinking about the practice of curriculum in higher education in order to enhance the development of research in the undergraduate curriculum, to make graduate students comprehend the curriculum of their departments in a structural and critical fashion, and to take part in the action of curriculum development.

The course contents include the mission of undergraduate curriculum, the brief introduction of the constitution and the structure of undergraduate curriculum, the basic skills and knowledge of undergraduate curriculum, the system of majors, the system of elective courses, the system of liberal arts and core curriculum, the system of university programs, the system of non-majors courses in the fresh year, the revolutionary history of undergraduate curriculum, the review and the outlook of policies of undergraduate curriculum.

D0327 Seminar on Digital Teaching (3/0) The purpose of this course is to investigate how to implement e-learning courses effectively. It contains the meaning of e-learning teaching, the roles of teachers and students in e-learning teaching environment, the teaching strategies and evaluation for e-learning courses.
GRADUATE INSTITUTE OF FUTURES STUDIES

Degree Offered: M.A

Chair: Deng, Jian-bang (鄧建邦)

The Institute

The Graduate Institute of Futures Studies was established in 2002. Its main objective is to integrate various disciplines to meet the megatrend of “learning revolution.” The institute emphasizes a transdisciplinary approach in facing the new era of Globalization, Information-oriented education and Future-oriented education. The Institute also puts great emphasis on local society’s historical and cultural development in a broader context of globalization. Students will receive long-range, forward-looking and integrative training so as to become future leaders with insights and visions. Our missions are as follows:

1. To carry out the design and instruction of core courses on futures studies.
2. To make general education courses future-oriented.
3. To make future-oriented innovations in instruction, research, administration and service.

Goals of the Institute are as follows:

1. To equip students with the capability of environmental scanning, scenario building and visioning within an integrated context of social change.
2. To cultivate students as future global elites with critical and innovative thinking in the fields of education and social sciences.
3. To enhance students’ ability as policy and planning experts with great interests in local and global issues.

The Institute also offers undergraduate futures courses in five major areas: Futures Studies in society, technology, economy, environment and politics. Besides, it has also designed correlated courses for graduate studies. The Institute has published a scholarly quarterly periodical, Journal of Futures Studies, and has been actively ordering and exchanging essays, journals, and books, coordinating scholarly discussion via international conferences, workshops, websites, and co-sponsoring seminars with World Future Society (WFS), World Futures Studies Federation (WFSF), and Foundation for the Future (FFF). The institute has also received a four-year research grant from the Ministry of Education to integrate undergraduate futures-related courses into a futures research program.

Faculty

Associate professors
Chen, Jui-kuei (陳瑞貴); Chen, Kuo-hua (陳國華), Deng, Jian-bang (鄧建邦)

Assistant professors
Chen, Chien-fu (陳建甫); Ji, Shun-jie (紀舜傑); Lai, Chia-ling (賴嘉玲); Song, Mei-mei (宋玫玫)

Visiting Professorial Research Fellow
Inayatullah, Sohail (蘇哈爾)

Degree Requirements

Requirements of a Master’s degree in social science.
Completion of 32 credits of courses, including 9 credits of required courses, and 23 credits of elective courses. Students are also required to submit a written master's thesis completed under the supervision of a faculty member, and pass an oral examination.
Graduate Course Descriptions

**A2033 Issues in Futures Studies (2/0)** This course explores problems, trends and emerging issues in futures studies. These include: health futures, developments in genetics, innovation in technology particularly artificial intelligence, demographic changes, military futures, and gender futures.

**D0010 Theoretical Approaches to the Future (3/0)** This course develops the academic basis for futures studies. The origins, approaches, philosophical foundations for the field are explored, as well as questions around the futures of futures studies.

**D0011 Macrohistory and Macrohistorians (2/0)** This course examines various perspectives on individual, social, and civilizational change. Macrohistory is the study of social systems, along separate trajectories, in search of patterns.

**D0012 Social Science Research Method (3/0)** This course focuses on the training of social science. What is a fact? What is a problem? How to observe social facts? What is research? How to operate a concept and construct a theoretical framework? And how to collect and analyze data? These questions will be discussed.

**D0013 Organizations and Movements in Futures Studies (2/0)** This course aims to discuss: Which organizations support the work of futurists? Where are they located? What are case studies of successful use of the futures studies approach? Which movements are future oriented (or are they all single issue present based)?

**D0014 Technology, Innovation and Learning (2/0)** This course aims to discuss: What are the trends in pedagogy? How can educational systems be more future oriented? What are the case studies to support innovation in education? What will the education system of the future look like?

**D0015 Regional Development and Globalization (2/0)** This course examines the impact of globalization on regional development, including national level, Asia-Pacific areas, and the world. Globalization will be emphasized with regard to the impact of multi-national enterprises, labor force migration, industrial clusters, capital interventions and technological innovations.

**D0016 & D0017 Proseminar I & II (1/1)** This introductory seminar will serve as a thorough academic orientation for postgraduate students. The focus is to provide necessary skills toward how to become professional futurists.

**D0018 Change and Development (0/3)** Theories of social change are based on organizational traditions that emphasized innovation, control, plan and management. The objective of this course employs change and development theories to explore the futures of business organizations and nations, particularly on the impact of globalization and the post-colonial societies.

**D0019 Futures Studies on Sustainable Development (0/2)** This course is aimed to define Sustainable Development, which has been misused and misinterpreted by some professions around the world, in a professional way. Since its being introduced in 1987 for the first time, Sustainable Development has become the most politically correct slogan for some superficial purposes. Therefore, to explore the true meaning of Sustainable Development is a good starting point for its implications and practices. Sustainability is intergenerational in nature. That is, the major concerns of Futures Studies are actually link the past, present, and future.

**D0020 Leisure and Working Society (0/2)** Leisure gradually replaces traditional working patterns and become a new lifestyle for future societies. Whether leisure will replace working or not? Will leisure create more working opportunities? Is leisure only a special working pattern? Those questions will create more discussions in this course.

**D0021 Multiculturalism and Population Change (0/2)** What is multiculturalism? Through global village or local Taiwanese perspectives, this course leads students to explore problems of multi-ethnics, and conflicts of the majority and minority. Meanwhile, students will discuss with the result of the coming elderly society and complex patterns and relations of families.
D0022 Post-colonial Futures Society (0/2) What are the related issues in post-colonial societies? How to imagine or adjust the paradox of the post-colonial society? After the trend of economic globalization, the new pattern of division of labor among the world’s economic system is gradually organized. This course will discuss the new dominant-dependent network of economic, culture, social and politics among nations.

D0023 Methods in Futures Studies (0/3) This course investigates the methods used in futures studies. These include: scenario development, causal layered analysis, futures wheels, visioning, trend analysis, emerging issues analysis and backcasting.

D0066 Global Change and Development (0/2) The course covers three major sections: historical and futuristic aspects of theories concerning change (where are the sources of change?); the imaginative models of societal morphology (the consequences of social change); and searching for meaningful indicators of development (the alternative futures).

D0073 Philosophical Elements of Futures Studies (2/0) This course is designed to discuss the traditions of Futures Studies, including economic trend and predictions, sociological context analysis, the origin and result of change and development, and construction of time and space by philosophical perspectives.

D0075 Trend Analysis – Exploring the Long Term Future (2/0) This course aims to discuss: What is the long term future of humanity? What are the critical factors necessary for survival and trivial? Can the long-term future be forecasted?

D0076 Designing the Future (0/2) This course focuses on how to create the future. Design implications in created preferred futures are explored. What is the difference between the good and the perfect society? How can one ensure that one's political and social design is robust and does not close the future?

D0077 Eco-Economy and Sustainable Development (2/0) The core of this course is sustainability, as alternative to economic progress. It is designed to create rooms for constructive debates and provides paths for humanity to guarantee present and futures generations to satisfy their needs.

D0078 Health Futures (0/2) This course presents critical trends and scenarios that are crucial: globalization, the internet revolution, the genetics revolution and the multicultural swing. Either as full-blown or emerging issues create healthy futures that will be unrecognizable to us.

D0079 Biotechnology and Risk Society (2/0) Adopting theoretical perspectives from risk society, this course intends to explore level of societal realization toward genetic engineering. Public interest, value orientation, and associated attitude are among the focus of issues.

D0080 Network and Information Society (2/0) Questions and discussions will be the focus of this course. What are the characters of the segmented polysepalous network? What are the Learning Networks? How is the bureaucracy in the future? How are the Social Networks good for the development of the globalization?

D0081 Religion and Civilization Conflicts (0/2) This course starts with the intertwined relationship between technology and religion. What is the religion and global consciousness in the future? What is the value of the New-Thought Churches? What are Scenarios for adherents of world religions? What is Religion of Humanity?

D0087 Vision and Alternative Futures of Public Policy (2/0) The evaluation of a governmental policy usually is focused on its implicit and explicit goals. It is not unusual to see some policies are used to achieve certain political interests without comprehensive consideration. A wrong policy imposes great cost on every aspect of the society and should be avoided. This course uses the methodology of Futures Studies-"Vision-Picture-Strategy"- to build appropriate model for policy making and evaluation.
D0088 Designing the Future (0/2) This course focuses on how to create the future. Design implications in created preferred futures are explored. What is the difference between the good and the perfect society? How can one ensure that one's political and social design is robust and does not close the future?

D0090 Practical Uses of Futures Knowledge (2/0) The main purpose of the practical application is twofold: to establish research and professional networks with government and business sectors, as well as non-profit organizations; moreover, to create opportunities for students to link futures studies with action learning approach.

D0103 Futures Thinkers and Futures Thinking (2/0) Futures thinkers and futures thinking approaches the study of the future by analyzing futurists. These include academics and activists in the field. The following questions were asked of leading futurists. 1) What are the influences in your work? 2) What methods do you use in your futures studies? 3) What trends do you see creating the future? 4) What is your vision of the future? 5) References. The purpose of these questions was to gain insight into each scholar's story in futures studies. The purpose of this course, thus, is to better understand the theories, values and methods of futures studies by understanding the actors in the field.

D0119 Trends in Human Resource Management (2/0) This course elaborates the futures issues in terms of human resource management. It will also focus on how globalization and globalization impact the issues in selection criteria, and developing effective global managers.

D0120 China's Economic and Political Change (0/2) This course aims to help students inquire into the structural elements underlying Chinese society. It covers political, economic and social issues that have been long debated. The course depicts the difficulties and opportunities China encounters in the process of modernization.

D0121 Seminar on Global Trend Watch (0/2) The purpose of this seminar is to provide students with an understanding of those mega trends or future topics of the new era. It focuses on regional development, global governance, knowledge based economy, innovation and social change. This course applies both theoretical lectures and practical visits.

D0122 Multicultural Studies & Organizational Change (2/0) This course focuses on elaborating the multicultural issues in changing and developing organization. Organization development will energize the talents of individuals within the organization members in the pursuit of their own self-interests on making the organization more successfully and making their quality of working life more satisfying.

D0123 Globalization and Transnational Migration (0/2) The national state was usually understood as an imaged community with a single people, an undivided loyalty to a common government, and a shared past within this people. Hence immigrants were forced to abandon or deny their ties to their societies of origin. Globalization and transmigrants, however, have greatly changed this situation. Transmigrants construct their simultaneous embeddedness in more than one society and preserve their culture and identity to societies from which they emigrated. This course attempts to discuss this new phenomenon from various viewpoints like transnationalism, citizenship, methodological nationalism and multiculturalism, etc. Some case studies in Taiwan are also included.

D0124 Philosophy of Futures Studies (2/0) This course explores the philosophical foundations of futures studies. Issues about meaning of planning and possibility of predication will be examined. Discussion of these questions comes from the writings of contemporary philosophers such as Ossip K. Flechtheim, Max Weber, Jürgen Habermas, Karl Popper and Hans Jonas.

D0125 Applied Ethics (0/2) This is a seminar on issues concerning applied ethics. Topics include the problem of sexual equality, legitimating crisis of capitalism, biomedical ethics, animal rights and idea of global democracy. We will approach these topics by examining answers provided by contemporary discourse ethics.

D0126 Organization Vision and Innovation (0/2) With the dawn of the 21st century, there is an emerging and exponentially accelerating force for global societal and organizational change. Organizational environments in the new century are chaotic and require rapid response from highly committed, productive, intrinsically motivated organizations with self-directed and empowered teams.
that are flexible, flat, networked, diverse, and global. The organization must break through traditional strategic thinking but see clearly and thoroughly the possible change of the environment. Additionally, it also needs to propose a long-term sustainability vision, to develop sustainability visions, and to recommend actions to move towards the vision so as to acquire the continuous breakthrough of the organizational development; and the success of industrial competition. This course attempts to explore the relationship between the organization and future environment through theories of innovative management and futures studies; and further to discuss the creation, development, promotion, sustainability, and change of innovative vision and its related managerial creative issues.

**D0136  Population and Aging Society (2/0)** This course is designed to present the emerging issue of aging from futures perspective as well as a transdisciplinary approach. One of the major goals of this course is to encourage whole-of-government and community debate on the structural aging of the population and the interconnected need of all generations. It focuses on government planning frameworks and aims to generate a transformational shift in how government views the aging of population.

**D0153 Migration and Modern Society (2/0)** This seminar invites all students to explore the phenomenon of migration. In the first part of seminar we discuss the reasons why people migrate, the history of migration in Europe, emerging issues of migration and new models of future migration etc. The second part of seminar focuses on a specific type of international migration: professional migrants. “Modern capitalism,” “work,” “mobility,” “flexibility,” and “transnational lives” are some key concepts that will help us to understand this kind of migration.

**D0171 Sociology of Mobilities (0/2)** With the new development of transportation and media technologies, the intensified geographical displacement and cross-social interactivities have become inevitable social realities. Many dimensions of social lives have been affected, including the changing senses of time and space, the emergence of new mobile spaces, the newly created social relationship, uprising novel types of conflict and politics, as well as the transformation of identities and senses of belonging. In this multiple mobile society, the sense of dwelling obtains its new significance in the mobile age. The dialectics and negotiation between mobilities and dwelling have turned into new kinds of social dynamic that settle social identities and conflicts. The above newly emerged social phenomenon can be captured by multiple dimensions of mobilities. Thus, first of all, this course will introduce new theories that aim to explain the new mobile social phenomenon. It includes new social mobile ontology, speed politics, belonging and displacement. Then, the course will lead students to discuss different types of mobilities: It involves the transportation and media technologies, from public and private transportation to the social uses of mobile phones. It concerns the mobile people, from migrant workers, migration to tourists. It relates to the mobile objects, from cultural symbolic objects on the move, commodities exchange to the mobile luggage and garbage. It also involves into the mobility of metaphors, from metaphors, symbols, image and knowledge on the move. Also, the issues of mobile spaces and spaces on the move, the pleasure and danger/risk of mobilities, the intensified surveillance correspondent to the mobilities, will be included in this course. In addition to theoretical discussions, this course will also engage students in the study of empirical cases in Taiwan, news and performances related to mobilities, as well as some field trips to non-physical places.

**D0210 Statistics Methods and Applications (3/0)** Statistics methods and applications present the statistic software of SPSS and Minitab to analyze industrial, economical and social surveys. Graduate students are expected to be able to interpret research results through the experimental design, test research hypotheses, analysis of variance, regression and trend analysis.

**D0215 Globalization and Education Change (2/0)** Globalization is one of the most important trends in this century. The great impact it has reached on the modern societies has far beyond people’s comprehension and imagination. Therefore, it is important to take globalization into account when we envisage future possibilities. This course will introduce to students the formation and development of globalization as well as its impact on modern education. This course will also examine recent social transformation through investigation of changes in educational forms and contents.

**D0219 Organizational Change and Uncertainty Management (2/0)** The fast changing and uncertainty environments in the 21st century require organization to be agile and responsive in the
conditions of change and uncertainty. In an environment of continuous and unpredictable change the organizations have to develop the capability to survive by reacting quickly, effectively to change environments, and to create the sustainable future. This course aims to explore the uncertainty environments, develop the successful strategy and manage the changing organization.

**D0230 Designing the Future: Future-Oriented Policy Studies (0/2)** This course is mainly Futures Studies. Topics of concern include key methods of Policy Studies and Case Studies in Future-Oriented Planning.

**D0241 Seminar on Futures Studies I: Social Science Research (0/1)** As an extension of the course offered in the previous semester, this follow-up course aims to familiarize students with research methods in conducting social science research with a future perspective. Key issues involved in futures studies include issue raising, methodology, research ethics to dissertation proposal writing. This course begins with guiding students to critically study several excellent MA dissertations in the area of social science and shape their own research in a creative way. Then, in this course, we will further discuss research methodologies and multiple research ethics issues. Finally, students will devote to group discussions, which is designed to stimulate group-dynamics and to reflect their discussions on their own dissertation proposal-writing and their preparation for oral examinations.

**D0242 Seminar on Futures Studies II: Social Science Research (1/0)** As an extension of the course offered in the previous semester, this follow-up course aims to familiarize students with research methods in conducting social science research with a future perspective. Key issues involved in futures studies include issue raising, methodology, research ethics to dissertation proposal writing. This course begins with guiding students to critically study several excellent MA dissertations in the area of social science and shape their own research in a creative way. Then, in this course, we will further discuss research methodologies and multiple research ethics issues. Finally, students will be devoted to group discussions designed to stimulate group-dynamics and to reflect their discussions on their own dissertation proposal-writing and their preparation for oral examinations.

**D0243 Social Conflict and Educational Innovation (2/0)** This course examines recent and future trends in university education in the context of the vast changes in the mode of production and social relations ushered in by the knowledge economy. We will look at past theories of the university as “state apparatus” (Althusser) and “disciplinary institution” (Foucault) as well as recent work on the university in relation to “disorganized networks” (Rossiter) and “cognitive capitalism” (Moulier-Boutang).

**D0245 Tourism, Leisure and Consumer Culture (2/0)** This course aims to introduce the historical development of tourism and leisure and its social transformation. It discusses the mechanism of tourist destination making. This course leads the students to inquire the consumption part of tourism and the tourist practices, and includes the issue of package tour, backpackers’ journey, travel photo-taking, souvenir shopping, tourist embodied experiences, danger/risk tourism and insurance.

**D0247 Ethnography in Futures Studies (2/0)** This course introduces qualitative research strategies for students in futures studies. In addition to basic concept and theories, special emphases are given to skills in data collection, data analysis, and report writing. Ethical issues in qualitative research inquiry will also be discussed.

**D0286 Social Development in Contemporary China (0/2)** China is now in transition from a “world factory” to a “world market”. This seminar invites all participants to explore the social development in contemporary China. In the first part of seminar we discuss Chinese social structure and moderation. The second part of the seminar focuses on urban-rural mobility and “Huko” (Household registration) System in China. The third part of the seminar discusses issues relevant to education, marriage and identity of migrant workers in coastal cities. The final part of the seminar deals with the topic of new emerging generations in China.

**D0288 Cultural Studies on Museums and Exhibitions (2/0)** This course aims to introduce to students the social significance and changing dynamics of public display. It begins with the historical shaping of the public display in terms of the spatial technique, then it explores how the public display has been involved in the process of defining and organizing different social categories, and finally it discusses how the public display has been performed in different forms in the transforming society.
Specifically, this course will firstly familiarize students with basic terms relevant to public display coined by sociologists. Then, through discussions of different examples of public display — from exhibitions, museums, expos, festivals to theme parks — this course aims to explore current academic attempts made on the issues of the public and display. Finally, through discussions of some recent cases of exhibition regimes, students will learn the transforming characters of exhibitions in globalizing societies. In addition to introducing some theoretical literature, this course also encourages students to attend and appreciate different kinds of public display and share their comments on recent news relevant to public display with their classmates. Some after-class activities, such as exhibition trips, will also be recommended in the class.

S0467 Applied Statistics (0/3) This course provides graduate students with a systematic treatment of the quantitative study. The major issues include testing the research hypothesis, Chi-square test and Non-parametric statistics, Analysis-of-Variance, the simple and multiple variables regression, dummy and regression diagnostics, and Time Series analysis. Many of the statistical software packages, including SPSS+, Minitab and SAS, are also employed in the practical assignments. Finally, students will learn how to conduct a set of survey data, to solve some common problems, and to interpret the complex findings of the empirical studies.

T 8000 Thesis (0/4)
CENTER FOR TEACHER EDUCATION

Chair: Yu, Chia-cheng (游家政)

The Center

In response to the trends of diversification in teacher education, the Division of Teacher Education was established in 1995 to provide our university students with the program of Secondary Teacher Education. In addition, the Division began to offer the program of Elementary Teacher Education in 1998. The Division was restructured as “The Center for Teacher Education” in 2000. (The recruitment of the program of Elementary Teacher Education was suspended in 2008.)

There are two themes under the knowledge bases of our teacher education program, namely, teachers as instructional decision makers and teachers as developing professionals. Our program aims to make prospective teachers possess the following characteristics: (1) broad fields of knowledge; (2) highly developed professional skills; (3) mastery of instructional content; (4) proficiency in information technologies; and (5) adaptation to future social development.

Abiding by our university policies of globalization, information-orientation, future-oriented education, our teacher education program, in addition to the educational foundation and methodology courses, covers “Computers and Instruction,” “Instructional Media,” and “Instructional Design” as requirements for the purpose of cultivating knowledgeable and professional elite who are also aware of effective teaching with educational technology.

There are 15 Ph.D. holders among 23 full time/part time faculty members. They specialize in Educational Psychology, Educational Philosophy, Educational Administration, Theory and Practice in Counselling, Classroom Management, Educational Measurement and Evaluation, Instructional Media, Computers and Instruction, Instructional Design, Educational Technology and Curriculum Development.

Our facilities include an instructional reference room where teaching materials for the elementary and secondary schools are stored. In addition, there are micro-teaching demonstration classroom, art and craft classroom, music classroom, and media production classroom. Multi-media classrooms are widely used in our teaching. There is a maximum of 50 students in each class. In addition, hands-on courses allow only 25-30 students in a class on a one-computer-per-student basis. A variety of instructional methods are adopted, such as seminars, field trips, visits and voluntary services in order to equip students with both knowledge and a spirit of serving others. Evaluations are given periodically on both the process and product.

To increase teacher-student relationships, a mentor teacher is assigned to each class group. Moreover, a manual for teacher education is distributed to each newcomer. This manual contains course descriptions and other regulations. The Internet and BBS are widely used for students and teachers to share ideas and experiences. Speeches, seminars, discussions and field trips are given to students to broaden their views. Finally, students are assisted in working as volunteers in our cooperative schools to gain practical experiences and to increase the spirit of serving others.

In the future, we attempt to strengthen the links between theory and practice in terms of curriculum implementation so as to increase students’ application abilities and experiences. Furthermore, we plan to build a strong partnership relationship with our cooperative schools so as to create teacher professional development communities where every teacher can work and grow together.

Faculty

Professors
Yu, Chia-cheng (游家政); Chang, Ya-fung (張雅芳); Ko, Chih-en (柯志恩)

Associate Professors
Hsu, Chia-ling (徐錦玲); Ju, Huey-fang (朱惠芳); Li, Li-chun (李麗君); Yang, Ming-lei (楊明磊); Sung, Pei-fen (宋佩芬); Huang, Ru-chieh (黃儒傑)

Assistant Professors
Chen, June S. (陳錦珍); Lin, Shu-ping (林淑萍)
Degree Requirements

Completion of 26 credits of courses, including 14 credits of required courses, 12 credits of elective courses and 40 hours of non-credit "Educational Professional Services".

Course Descriptions

A0599 Introduction to Education (2/0) To provide all learners, those with diverse cultural backgrounds and academic majors, with pedagogical theories and schooling practice that are necessary for understanding education, this course will help students: (1) to analyze the function and value, principles and criteria of education, (2) to explore the process and product of education, and (3) to inspire their eager devotion and great passion to practice and praxis for education.

A1370 Principles and Theories of Instruction (0/2) This course covers theories and methodologies of instruction. Moreover, it examines how to teach effectively and efficiently, and how to promote student learning effectively.

A1412 Computers and Instruction (0/2) This course introduces various ways of applying computer technology to instruction. A virtual classroom on the web is used to integrate the whole idea. Hands-on experiences are highly emphasized.

A1584 Educational Philosophy (0/2) This course introduces different thoughts of education in the East and the West so as to help students construct their own philosophy of education.

A1588 Educational Sociology (0/2) Based on the perspectives of sociology, the content of this course includes classroom structures, teacher-student relationships, and the influences of family, community, economics, culture, politics, and social movements on education.

A1626 Theory and Practice in Counselling (0/2) This course introduces the basic principles of guidance, with various prospects of models, and explores the process and essence of guidance by way of problem solving of real cases.

A1627 Instructional Design (2/0) This course follows the process of instructional design, including analysis, design, development, and evaluation. Students need to produce their own lesson plans and to work with others for the development of integrated curriculum.

A1628 Classroom Management (2/0) This course covers the principles and strategies of classroom management. The emphasis is placed on how to apply these strategies so as to create a positive environment towards teaching and learning.

A1630 Educational Administration (2/0) This course covers both theories and practices of educational administration, including educational policies, systems, management theories, leadership, and trends of education development.

A1635 Educational Measurement and Evaluation (0/2) This course provides knowledge and skills of educational measurement and evaluation. It requires students to develop different types of tests based on three domains, namely, cognition, affection, and psychomotor.

A1774 Psychology of Adolescents (0/2) Based on the theories of development and guidance, this course adopts representative cases of empirical studies to investigate the issues of adolescent physiology, intelligence, personality, value systems, self-concepts, etc.

A1775 Behavior Modification (0/2) This course introduces the use of empathy, discourse skills, operant conditioning principles, and modification techniques to develop alternatives for the attainment of behavior modification.

A2092 Special Education (2/0) This course introduces the characteristics of various types of students with special needs, and outlines the relevant treatments in terms of instruction, classroom management, interpersonal relationships, and teacher-student interactions.
D0053 Instructional Media and Operations (2/0) This course outlines various forms of instructional media. It requires students to develop their own transparencies, slides, and so on, to explore the advantages and weaknesses of each type.

D0054 Curriculum Development & Design (0/2) This course introduces some basic concepts of curriculum and the process of curriculum development, which typically consists of analysis, design, implementation, and evaluation. Related issues and future trends are discussed as well.

D0061 Life Education (0/2) Ultimate concern, speculation and demarcation, and exploring life possibility are the three parts. Love, compassion and spiritual intelligence are the main goals.

D0146 Secondary School Internship (2/0) The aim of this internship course is to provide secondary school student teachers opportunities to put theory into practice, learn to reflect with a disciplined mind, and become skillful in classroom management and teaching. Student teachers will need to do journals and construct portfolios as their evidences of becoming reflective practitioners.

D0266 Research of Critical Issues in Education (I) (2/0) This course aims to investigate some contemporary issues in the context of education, such as educational reform, school management, autonomy, equity, social values, etc.

D0302 Research on Critical Issues in Education (2/0) This course introduces the learning strategies and reading comprehension strategies to improve students’ professional knowledge. Furthermore, students need to practice autobiography and resume, teaching portfolios, oral exam, and teaching to develop professional abilities in this course.

T0145 Educational Psychology (2/0) This course introduces different theories of educational psychology including behaviorism, humanism, and cognitive psychology. It also examines the characteristics of teacher-student interactions in the process of teaching and learning.

T9601 Professional Services in Education (0/0) This is a 40-hour non-credit required course which aims to help our prospective teachers understand the context of the current education, and to cultivate their spirit of serving others.

D0342 Teaching Materials and Methods in Language Arts Chinese (0/2) This course aims to get students familiar with the teaching materials and methods of the subject matter.

D0344 Teaching Materials and Methods in Language Arts English (0/2) This course aims to get students familiar with the teaching materials and methods of the subject matter.

D0346 Teaching Materials and Methods in Mathematics (0/2) This course aims to get students familiar with the teaching materials and methods of the subject matter.

D0348 Teaching Materials and Methods in History (0/2) This course aims to get students familiar with the teaching materials and methods of the subject matter.

D0350 Teaching Materials and Methods in Second Foreign Language-Spanish (0/2) This course aims to get students familiar with the teaching materials and methods of the subject matter.

D0343 Practicum in Language Arts Teaching-Chinese (0/2) Microteaching and field trips are emphasized to encourage students to put theories into practice.

D0345 Practicum in Language Arts Teaching-English (0/2) Microteaching and field trips are emphasized to encourage students to put theories into practice.

D0347 Practicum in Mathematics Teaching (0/2) Microteaching and field trips are emphasized to encourage students to put theories into practice.

D0349 Practicum in History Teaching (0/2) Microteaching and field trips are emphasized to encourage students to put theories into practice.
D0351 Practicum in Second Foreign Language Teaching-Spanish (0/2) Microteaching and field trips are emphasized to encourage students to put theories into practice.
COLLEGE OF GLOBAL ENTREPRENEURIAL DEVELOPMENT
COLLEGE OF GLOBAL ENTREPRENEURIAL DEVELOPMENT

Dean: Liou, Ay-hwa Andy (劉艾華)

Brief History

After more than ten years of planning and development, the Lanyang Campus of Tamkang University successfully passed the evaluation by the Ministry of Education in the spring of 2005. In the fall semester of the same year, the campus began accepting students and has officially become one of the campuses of Tamkang University. Originally, there were three colleges in this campus: the College of Entrepreneurial Development, the College of Global Research and Development, and the College of Community Development. After five years of actual functioning and development, starting from Fall 2010, the College of Entrepreneurial Development and the College of Global Research and Development have decided to integrate tightly to become one college: the College of Global Entrepreneurial Development. The merging is based on the common intrinsic nature and the future necessity of the campus goal. The College consists of four departments at its inception: the Department of Innovative Information and Technology, the Department of Tourism and Hospitality, the Department of Multicultural and Linguistic Studies and the Department of Global Politics and Economics. All departments are geared toward the development of global entrepreneurial spirit, which is the mission of the College.

The most important feature, also the innovative policy, of this college is to allow 90% of the courses to be conducted in English. Another revolutionary policy of the College is to require all the students to go abroad for their junior year studies. Along with the adoption of “residential college” setup, this college is well-prepared for the future.

Mottos and Goals

Tamkang, Lanyang Campus: Establishing new direction for higher education and grooming students with international vision and omni-directional talent.

Future Development

The College of Global Entrepreneurial Development would continue to establish relationships with the local community as well as world-wide partners and provide resources for students and alumni embarking on global entrepreneurial ventures. As part of the well-established Tamkang University in Tamsui, Lanyang Campus shares the university's core values that shape its distinctive intellectual culture. At the College of Global Entrepreneurial Development, we would constantly test ideas leading to innovative expansions. More majors would be added in this manner to enhance our educational endeavors.

Course Descriptions

**H0002 International Etiquette (2/0)** This course introduces students to a knowledge concerning how “Manners Make Men and Women.” That is, the manners in which we dine, dress, and walk properly when interacting with other people from a variety of cultural settings.

**H0003 Global Technology Revolution (2/0)** How will artificial intelligence change the way in which law is conducted? What is the impact of issues, such as globalization on the future of international law, terrorism, and world law? Can we keep up with changes in world economy and technology? Is a science court needed to address issues such as the rights of robots?

**A0502 English Writing (2/0)**

This course aims to cultivate students’ English writing abilities in general with a secondary emphasis on academic English. Students will learn process and collaborative writing. Important skills, such as how to write academic papers, paraphrase, and cite, as well as how to write a topic sentence and
develop a paragraph and passages for diverse tasks, will be taught.

**F0219 Reading Club (2/0)**
Students will learn some reading skills, such as identifying text organization, separating fact and opinion, scanning, skimming, and inferring meaning. Students are expected to develop and improve their reading ability through the training in class.

**H0005 Oral Communication in English (0/2)**
This course aims to improve students’ English communication. Students will learn how to prepare a speech and how to perform it in class. Every student has to give a speech in this course.

**H0006 General English Proficiency Test (0/2)**
GEPT is gradually becoming a required certificate for everyone in the new language learning era. The purpose of this course is threefold: familiarizing students with the formats of GEPT at three levels, informing students the differences between GEPT and TOEFL, and sharing some test taking and preparing strategies.

**A1376 Ability of Expressing in Spoken and Written Chinese**
Learning Chinese is the globalization tendency. The purpose of this course is to develop students’ logical thinking and expressing in Chinese. Speaking and literary creation in Chinese, which are based on writing and reading, are important in the aspect that they help stimulate students’ creative intellect. On the other hand, the intention of team-presentation will be training their communication and cooperation, based on the belief that Chinese culture promotes humanistic spirit and accomplishment.

**H0009 Introduction to Computer Science (2/0)**
This course introduces students to: (1) information society; (2) networking operations and applications; (3) word processing; (4) hardware and software of computers; (5) applications of computer; (6) computer programming.

**H0010 Data Processing (0/2)**
This course is an introduction on how to use the computer to administrate, process, and manage mass and complex data.

**T2353 The studies of Globalization (2/0)**
The first part of the course deals with the basic concepts, nature, characteristics and dimensions of globalization. The second part analyses the impacts of globalization on the states, economies and societies with special emphasis on the Asia-Pacific region.

**V0049 Business and Enterprise Management (0/2)**
This course provides a solid, up-to-date grounding in business and management with a special focus on enterprise and innovation. Enterprise and innovation are becoming crucial to competitiveness in all organizations including, private, public, and non-profit.
DEPARTMENT OF INNOVATIVE INFORMATION AND TECHNOLOGY

Degree Offered: B.S.

Chair: Lin, In-ho (林銀河)

The Department

The department of Innovative Information and Technology (IIT) was established in August, 2009 (to consolidate the Department of Software Engineering and the Department of Information and Communication Technology Management, both of which were founded in August, 2005), and has continued to provide four-year undergraduate students with both theoretical knowledge and practical expertise on the information and communication management technology and the software development. Our curriculum focuses on two major fields: Software Engineering and Network Communications, especially on information system integration and engineering with a focus on communication/Internet based software application. The new department strives to further the development of intelligent information theory and technology and its successful innovative applications on business and industry. In addition to the innovative, reliable, and integrated technological solutions, quality services, and information resources, the primary mission of this department aims to provide students a basic understanding of the principles of the discipline, as well as the ways and norms of a responsible citizen. Therefore, the department emphasizes the importance of what a complete education is thought to be, not just the training of high-level computer-related professionals.

The goal of this department is to pursue the excellence and high quality in holistic education and practice, and instill into our students with professional skills, attitudes, values, and globalized vision in the area of software engineering and the management of innovative information technology. This department also aims to prepare students for careers as leaders and pioneers in information and communications professions and researches. Graduates are expected to be adept at using the latest information and communications technologies and to be qualified to pursue careers as beginning information and communication managers in a variety of organizations.

Faculty

Associate Professors
Lin, In-ho (林銀河); Lei, Ying-hui (雷英暉)

Assistant Professors
Chu, Liou (朱留); Huang, Huang-wen (黃煌文); Hui, Lin (惠霖);
Wu, Shih Jung (武士戎); Chang, Feng-Cheng (張峰誠);
Chen, Duen-Kai (陳惇凱); Hung, Fu-Yi (洪復一)

Degree Requirements

Requirements for a degree of B.S.:
Completion of 128 credits of courses, including 74 credits of required courses and 54 credits of elective courses. Students need to study abroad in the junior year.

Course Descriptions

E0594 Program Design (3/0) This course introduces the concepts of programs and flows, from which students learn how to represent a solution in a procedural style and finally implement in Python and C.

M0724 Object Oriented Programming (0/3) C++ is a popular object-oriented programming language for large-scale software development. It is flexible in that both high-level and low-level syntactic
features are supported. We will learn C++ by various kinds of examples, and focus on solving practical problems in the OO approaches.

**S0325 Calculus (3/0)** The course gives an introductory concept of calculus with examples and application contents in order to establish foundations for advanced courses.

**S0439 Linear Algebra (0/3)** The current course introduces LINEAR ALGEBRA as a fundamental mathematic concept and a tool to further courses. Cases will be introduced to present the connection to daily applications as a foundation of further study.

**S0450 Introduction to Probability Theory (0/3)** The current course introduces probability theorem as a fundamental mathematic concept and a tool to further courses. Cases will be introduced to present the connection to daily applications as a foundation of further study.

**S0487 Discrete Mathematics (3/0)** This course familiarizes students with discrete mathematics which is an important fundamental knowledge in computer science and software engineering. It will further help students to understand the major topics and functions in discrete mathematics.

**E0175 Operating Systems (0/3)** The purpose of this course is to describe the theory of operating systems. It concentrates on each of the “managers” in turn and shows how they work together. Then it introduces network organization concepts, security, ethics, and management of network functions. In the second-half-semester we will introduce actual operating systems, how they apply the theories presented in the first half and how they compare with each other.

**E0646 Database Systems (0/3)** This course is designed to provide individuals with a complete introduction to database concepts and the relational database model. At completion of this course, students should be able to understand a user’s database requirements and translate those requirements into a valid database design.

**M0171 System Analysis and Design (0/3)** This course starts with an introduction of fundamental concepts, philosophies, and trends that provide the context of systems analysis and design methods, followed by systems analysis and its overall importance in a project. Those are specific systems analysis skills with an emphasis on logical system modeling.

**M0490 Network and Communication (0/3)** The goal of this course is to give students a superior foundation in network communications and focuses on OSI seven layers model.

**E0651 Data Structure & Processing (3/0)** This course focuses on using C programming language to solve special problems for application and computer. It emphasizes data storage, fetch, algorithms design and complexity evaluation.

**E1111 Algorithms (3/0)** The purpose of this course is to learn the typical algorithms and the applications. For each algorithm, we will describe:

1. the motivated applications
2. the design techniques
3. the complexity and the comparisons

By learning the typical algorithms, we will know how to design an algorithm to solve a problem, and how to evaluate the complexity of it.

**V0052 Practice of Projects (3/0)** The purpose of this course is to provide students with both theoretical knowledge and practical expertise on the information and communication management technology and the software development. We emphasize the importance of team work; therefore, students have to compose a team of 3-5 members to study and implement a specified project under the instruction of the teacher, and a final post representation and oral defense will be assessed as their academic results.

**E0521 Software Engineering (3/0)** This course provides experiences of programming for students to learn how to develop high quality software by engineering approaches.
DEPARTMENT OF TOURISM AND HOSPITALITY

Degree Offered: B.B.A.

Chair: Dr. Shu-yun Chang (張淑雲)

The Department

The Department of Tourism and Hospitality Management is becoming a future star of Tamkang University, with abundant resources devoted to it. The decision of placing this great investment was made by careful consideration of the vision into the future. Since the opening of the Hsuehshan Tunnel in June 2006, currently the fourth longest in the world, tides of people have been pouring into Yilan. Just as anticipated by the local government, this new department is a promise to the future of Yilan County.

Yilan County has undergone a long-term planning for making Yilan a tourist paradise. Tourism is fast becoming the major industry of this beautiful place. After a long period of planning, Tamkang University has been well prepared for presenting this new department. It is certain that the beautiful Yilan County will nourish this Department with plenty of excellent tourism resources. This Department, in turn, will reciprocate by giving positive feedback to this beautiful place.

Along with the expansion of the tourism market in Yilan, as well as with the triple objectives of Tamkang University (Globalization, Information-oriented Education, and Future-oriented Education), the Department of Tourism and Hospitality Management is standing on a firm ground. We have enhanced this foundation by facilitating a holistic education, providing 90% of the courses taught in English, and initiating a junior abroad program for students.

The Department trains students professionally in the management of tourism and hospitality businesses. They will receive practical on-site training before entering the job market. We also emphasize the acquisition of advanced modern concepts and the merits of operating a business creatively in the current trend of knowledge economics. It is believed that our students will be capable of managing businesses with a global view and excellent personality.

The Department of Tourism and Hospitality offers an undergraduate program towards the degree of Bachelor of Business Administration (B.B.A.).

Faculty

Associate Professor
Dr. Shu-yun Chang (張淑雲);

Assistant Professors
Dr. Juan, Pin-Ju (阮聘茹); Dr. Cheng, Chen-Hsuan (鄭辰旋);
Dr. Trejos, Bernardo (戴柏睿); Dr. Yeh, Chien Mu (葉劍木); Dr. Chen, W. Jasmine (陳維立)

Lecturer
Pan, Ting-Chun (潘定均)

Degree Requirements

Requirements for a degree of B.B.A. in Tourism and Hospitality:
Completion of 128 credits in courses, including 54 credits of required courses and 74 credits of elective courses. Students may need to study abroad during their junior year. Completion of 400 hours of internship is also required.

Course Descriptions

A0502 English Writing (2/0) This course aims to cultivate students’ English writing abilities in general, with a secondary emphasis on academic English. Students will learn process and collaborative writing. Important skills, such as how to write academic paper, paraphrase, and cite, as well as how to write a topic sentence and develop a paragraph and passages for diverse tasks, will be taught.
A1376 Ability of Expression in Spoken and Written Chinese (2/0) Learning Chinese is a globalization tendency. The purpose of this course is to develop logical thinking and expression in Chinese. Speaking and literary creation in Chinese are important. They are all based on writing and reading. On the other hand, the objective of team presentations will be to train their communication and cooperation skills.

B0302 Economics (3/0) Economics is the study of how society manages its scarce resources. Economists study how people make decisions and interact with one another but they also analyze forces and trends that affect the economy as a whole. There are many reasons you should embark on the study of economics. Let’s just mention the three main ones: 1) to better understand the world in which you live; 2) to become a more astute participant in the economy and make better decisions; and 3) to get a better understanding of both the potential and limits of economy policy.

F0219 Reading Club (2/0) Students will learn basic reading skills, such as identifying text organization, separating fact and opinion, scanning, skimming, and inferring meaning. Students are expected to develop and improve their reading ability through the training in class.

M0405 Management (3/0) The course offers students not only theoretical frameworks that guide managerial activities, but also illustrations and examples of how and when those theories may work. The course will consider both small and large businesses as well as nonprofit organizations.

M0496 Service Marketing (3/0) The course will give students a real-world perspective on the world of hospitality marketing.

M0517 Statistics (3/0) This course aims to teach the fundamental theories related to statistics and their application.

M0518 Accounting (3/0) This course introduces the basic concepts of accounting. It helps students to understand and to prepare financial statements as well as to analyze and to use financial information.

M1215 Cross-Cultural Management (2/0) In the age of globalization, managers need to face cross-cultural issues. Thus, communication, project management, and leadership are the areas of focus in this subject. Students will gain a personal experience through service-learning.

P0004 Introduction of Tourism Development (3/0) This course introduces concepts and perspectives in tourism. It briefly describes and explains the different kinds of travel models. Mass tourism, tourism marketing promotions, tourism service providers, transportation, holiday destinations and resorts, among others, will be examined. The course will also explore the possible issues that the tourism industry may encounter in the future, such as impacts on local culture, environmental change, sustainability in tourism, and so on. This course will discuss many practical cases in both upstream and downstream dimensions of the tourism industry.

P0008 Tourism English (---) (2/0) English for the tourism industry is quite different from our daily spoken English. You should speak and behave in a very polite manner. This course is designed for those who want to work in a hotel, a restaurant, a travel agency or an airline.

P0006 Rural Tourism (2/0) The aims of this course are for the students to understand, appreciate and experience the essence of rural tourism. A project will be developed to further prepare students' knowledge and skills in designing and delivering rural travels.

V0016 Introductions to Leisure and Recreation (3/0) Leisure and recreation integrate several issues including: environment, culture, quality of life, indicators of happiness, social psychology, and creativity. The course is designed to foster personal learning experience for this domain.

V0018 Tourism Planning (3/0) Tourism planning deals with how the different parties concerned with tourism development can work together and how to take into account everybody’s interest. Regional destination and site planning are discussed, and then put into practice in the local area.

V0021 Travel Agency Operations and Management (2/0) The course focuses on understanding the
main issues related to travel intermediaries. Since there have been considerable changes in the way travel agencies work in the last years, recent research on travel agencies will be discussed.

**V0023 Cultural Tourism (2/0)** Cultural tourism has been a focal area for UNESCO. It is concerned with the lifestyle of the people in those geographical areas, the history of those peoples, their art, architecture, religion(s), and other elements that helped shape their way of life.

**V0025 Introduction to National Parks (3/0)** The course introduces national parks in Taiwan and all over the world. It explains the creation and meaning of National Parks to the society. The course will also introduce the basics of national park management.

**V0037 Professional Practice on Tourism (0/0)** “Learning by doing” is a good method for combining theory and practice. This course allows students to gain experience in tourism and hospitality industries, including hotels, restaurants, travel agencies, among others, from a practical standpoint. Students can bring the skills they learn in class and put them to practical use in the field. Class discussions will examine the differences that exist between theory and practice. The practical experience will be helpful for future career prospects within the tourism and hospitality industry.

**V0050 Food Culture (2/0)** Food has become a widely accepted research topic in a broad array of study fields. This course covers classical foundations as well as recent advancements in food studies. Additionally, students will develop a bilingual menu as a practical community service project.

**V0060 Practice of Tour Manager and Tour Guide (3/0)** The objective of this course is to provide students a complete explanation of tour guiding and enforce it with a case experience, which will build up students’ confidence and problem solving ability on their future career. It will help to increase the value of travel agency businesses as well as their chance of employment.

**V0061 Food & Beverage Management (3/0)** This course introduces the foundations of Food and Beverage Service Management. All types and forms of restaurant settings will be discussed including the basic elements of the food and beverage industry, the history of the restaurant industry, restaurant operations, issues facing food service, meeting the guests’ needs, competition, marketing, and most importantly the role of service in the industry. The students will learn to use relevant concepts and theories to elucidate practical problem approaches and possible career opportunities within the industry.

**V0062 Human Resource Management in Tourism and Hospitality (3/0)** This subject is designed to introduce the main concepts of human resource management in the tourism sector. It begins by discussing the current trends of workforce and strategic human resource management. Then, the focus is on personnel planning, recruitment, selection, training, performance management and compensation. Issues related to occupational safety, human resources in entrepreneurial firms and managing human resources globally are also covered. Students are expected to develop abilities to identify and handle HR issues when facing HRM challenges.

**V0063 Tourism and Hospitality Financial Management (3/0)** This subject is designed to discuss the main concepts of financial management in the tourism sector, such as financial statement analysis, time value of money, interest rate, risk, return and investment decision making. Students will enhance their ability to manage the finances of tourism firms.

**V0065 Internet Innovation and Entrepreneurship (2/0)** This course is taught in cooperation with the Institute for Information Industry (資策會) and other portal websites that promote creative thinking and practice a new business model for the internet. The students are expected to bring new ideas and provide service to the course. Through the understanding and operation of the Web 2.0 platform and the preparation of a business proposal, many possibilities for internet businesses will be explored.
DEPARTMENT OF MULTICULTURE AND LINGUISTICS STUDIES

Degree Offered: B.S.S.

Chair: Jannette Wei-Ting Wang Gutierrez (王蔚婷)

The Department

The program design aims to combine the idea of promoting cultural diversity around the world and introducing an applied language dimension. It recognizes that everyone profits from the free flow of ideas, words and images. It encourages preservation of indigenous traditions and minority languages. It treats the cultures of rich and poor countries as equals. Most topically, it offers a healthy antidote to cultural homogeneity. In addition to core modules in areas such as Cultural Studies, Communication, Linguistics, and Ethnicity, Race and Identity, the program focuses on language and cross-cultural practices, modes of communication as well as on multimodal texts and narrative.

Features of the Program:

1. To prepare students to achieve intermediate competency in a modern foreign language.
2. To assist students to grow fluent and accurate oral and written expression ability, regarding communicating cross-cultural matters.
3. To prepare students to acquire and apply the skills of the liberal arts, including reading and listening comprehension, oral and written communication, and critical thinking, with particular reference to multicultural and language issues and analyses.
4. To help students to acquire substantial and diversified cultural knowledge of the selected foreign countries.
5. To facilitate students to develop the ability of applying multicultural concepts, theories and analytical tools to communication on foreign affairs.

Faculty

Assistant Professors
Jannette Wei-Ting Wang Gutierrez (王蔚婷); Chyi, Song-Ling (齊嵩齡);
Yen-Chen Chuang (莊晏甄); Ivy Haoyin Hsieh (謝顥音);
Yi-Chin Shih (施懿芹); Yi-Chien Wang (王怡茜)

Degree Requirements

Completion of 128 credits of courses, including 86 credits of required courses and 42 credits of elective physics courses. One year study abroad for English and professional training.

Course Descriptions

A0502 English Writing (2/0) This course aims to cultivate students’ English writing abilities in general with a secondary emphasis on academic English. Students will learn process and collaborative writing. Important skills, such as how to write academic paper, paraphrase, and cite, as well as how to write a topic sentence and develop a paragraph and passages for diverse tasks, will be taught.

A0756 Linguistics (2/0) This course aims to provide students with basic core concepts of linguistics and its various relations and applications in society.

A0757 General Linguistics (3/0) This course aims to provide students with basic core concepts of
linguistics and its various relations and applications in society.

A1376 Ability of Expressing in Spoken and Written Chinese (2/0) Learning Chinese is the globalization tendency. The purpose of this course is to develop students’ logical thinking and expressing in Chinese. Based on writing and reading, speaking and literary creation in Chinese are important in that they stimulate students’ creative intellect. On the other hand, the intention of team-presentation will be training their communication and cooperation, based on the belief that Chinese culture promotes humanistic spirit and accomplishment.

A1563 Japanese (III) (2/0) This course aims to develop students’ communicative skills in both spoken and written Japanese and to extend students’ understanding of the culture(s) and way(s) of life in countries where Japanese is used. Students are encouraged to enjoy language and language learning.

F0219 Reading Club (2/0) Students will learn some reading skills, such as identifying text organization, separating fact and opinion, scanning, skimming, and inferring meaning. Students are expected to develop and improve their reading ability through the training in class.

H0021 Qualitative Research (2/0) This course is intended to provide the students with the basic skills needed to do qualitative research. Qualitative research is research that focuses on understanding, rather than predicting or controlling, phenomena. It is usually contrasted with traditional experimental and statistical research and is felt by many to be more appropriate to the study of human life.

H0058 French III (2/0) This advanced course shows students how to use their French to travel in France, how to make their orders or reservations in the restaurants, train stations and hotels.

H0078 Ancient Greek Culture (2/0) This is an introductory course of ancient Greek culture. This course strives for a general understanding of ancient Greek culture with focus on the Greek myth, literature, philosophy and political thoughts. Our goal is to gain a familiarity with ancient Greek culture though an examination of selected works of literature and films and therefore to seek an appreciation of Greek culture and its contributions to the modern world.

H0083 Travel Literature (2/0) What is “Travel Literature”? Travel Literature is a fashionable genre these days. It is a hybrid requiring both the experience of actual travel and some semblance of literary merit. An individual writing records the people, events, sights, and feelings of a travel itinerary. It is more than adventure or conquest, more than the record of dates, names or events; it should have some insights and values, and a coherent narrative.

H0084 Germany (III) (2/0) The current course features some essential parts of German grammar like the present perfect, the accusative and dative cases and modal auxiliaries. They will be introduced in three broad thematic fields dealing with movement and orientation, traveling and lifestyles, as well as everyday life and dreams. There will be a range of foci: structures, reading, listening, speaking and writing.

H0116 Gender and Multiculturalism (2/0) This course focuses on 1) women's writing and 2) feminism and films within a cultural and theoretical context. There will be a heavy reading load and students are asked to discuss in class.

H0117 Renaissance and Humanism (3/0) During the period of the Renaissance the West rediscovered its own cultural heritage. At the same time the main foundations of the modern age were laid during this period. This course will look at some of the outstanding personalities of this period to understand the inner tensions of this period. A general introduction of texts by authors such as Erasmus of Rotterdam and Machiavelli will be read and discussed in class. Other works include the dramas by Shakespeare, Marlowe, and Moliere.

H0122 Translation: English to Chinese (2/0) Based on the translation of a variety of texts (magazines, newspapers or literary essays), this course compares linguistic differences of English and Chinese (terminology, syntax, usage etc.), and helps students perceive some cultural differences behind the linguistic devices.
H0124 Music Aesthetics (3/0) Students can learn how to appreciate the beauty of the music, and also learn how to respect the diversities among various kinds of the arts.

H0125 A Brief Introduction of the Translation Theory (2/0) This course introduces Translatology as a newly-emergent discipline in recent years. It demonstrates how translation theories evolve during the centuries, including the automatic (machine) translation in the future business markets.

H0155 Global Governance (2/0) The focus of this course includes IGO, NGO, and MNC and their governance models. The instructor of this course will utilize the case study approach to help students appreciate fundamental concepts of global governance.

H0158 Multicultural Service Learning (I) (2/0) This is a one-year course of Multicultural Service Learning. The main focus of the 1st semester will be the Multicultural and I. We will study theories, watch films that relate to different kinds of multicultural issues. We will also do case studies and discussion in the classroom that will help students to gain the sense of “I-Self” in the multicultural modern society. The service-learning issue will be discussed in the 2nd semester based on the theory we learn in the 1st semester.

H0161 Cultural Services and Non-profit Organization (2/0) This is a course intended to give students a broad overview of the management challenges of the non-profit sector. It is not a detailed management course but rather is aimed at students who will likely relate to non-profits in a variety of ways (on the boards, as volunteers, as fund-raisers, and occasionally as staff).

P0010 English Reading for Freshman-Major I (2/0) This course is designed for English-major freshmen to achieve the reading and writing ability with critical thinking and communicative skills. Throughout the course, my hope is that we learn to live as a community of authors--immersed in writing and sharing our writing, reading and discussing our reading, listening openly and responding to each other's ideas and points of view. This personal experience with language reading and writing and reflecting on that experience will form the core of foundation for reading and writing.

P0012 English Writing for Freshman-Major I (2/0) This course is designed for English-major freshmen to achieve the reading and writing ability with critical thinking and communicative skills. Throughout the course, my hope is that we learn to live as a community of authors--immersed in writing and sharing our writing, reading and discussing our reading, listening openly and responding to each other's ideas and points of view. This personal experience with language reading and writing, and reflecting on that experience, will form the core of foundation for reading and writing.

P0014 Selected Readings In English And American Literatures I (2/0) This course introduces “English Literature”: genre and historical context, style and theme (or form or content), to help students analyze and appreciate how literary texts convey their meanings in their time. We read a selection of interesting texts: epics, plays, poems or novels (original or translated excerpts), with supportive materials such as leading questions, some research papers and related websites to stimulate classroom discussions and further studies.

P0016 International Affairs English (2/0) The course’s objective is to present specific vocabulary for description of international relations. Students will be familiarized with the key vocabulary and expressions for international politics and international economy. Skills include comprehensive communication in English on international relations area.

P0017 English Presentation (3/0) The course aims to improve students’ oral ability and help students to give good presentations. Students will learn some oral skills, such as how to start a presentation, how to organize their materials, and how to prepare for a presentation.

T9890 Physical Education-Billiards (2/0) The course discusses the characteristics of billiard, its history, terminologies, facilities and equipments, skills and rules of the game. Overall, this course will equip students with the basic skills and get the students passionate about billiard to develop regular exercising habits.
V0038 Project Management of Junior Abroad (I) (0/0) This course aims to help students to gain international experiences through Junior Abroad program. Course contents include an introduction of different tests of English proficiency, schools selection and preparation of studying abroad.

V0040 Project Management of Junior Abroad (III) (0/0) This course aims to help students to gain international experiences through Junior Abroad program. Course contents include an introduction of different tests of English proficiency, school selection and preparation of studying abroad.
DEPARTMENT OF GLOBAL POLITICS AND ECONOMICS

Degree Offered: B.S.S.

Chair: Cheng, Chin-mo (鄭欽模)

The Department

The Department of Global Politics & Economics was established in 2005 to provide integrative programs for undergraduate students who wish to pursue a career as a political and economic analyst at the international level. We currently offer a B.S. degree only. In order to prepare students for a successful career in a rapidly globalizing and competitive world, we offer a curriculum focused on the application of basic theories and extensive trainings in globalization, politics, economics, and English language.

The faculty members of the Department of Global Politics & Economics conduct research on a variety of topics, including Globalization, Political Science, International Politics & Economics, Political Economics, Regional Political and Economical Development, and European Studies.

Faculty

Visiting Professor
Shee, Poon-kim (徐本欽)

Associate Professor
Lin, Li(林立)

Assistant Professors
Cheng, Chin-mo (鄭欽模); Pao, Cheng-hao (包正豪); Chou, Chih-wei (周志偉);
Verga, Franck (馬為騰); Justyna Nakonieczna(尤蒂娜)

Degree Requirements

Requirements for a degree of B.S.S. in the Department of Global Politics & Economics:
Completion of 128 credits of courses, including 73 credits of required courses and 55 credits of elective physics courses, and one year study abroad for English and professional training.

Course Descriptions

B0305 Principles of Economics (3/0) Economics is the study of how society manages its scarce resources. Economists study how people make decisions and interact with one another but they also analyze forces and trends that affect the economy as a whole. There are many reasons you should embark on the study of economics. Let’s just mention the three main ones: to better understand the world in which you live, to become a more astute participant in the economy and make better decisions, to get a better understanding of both the potential and the limits of economy policy.

H0003 Global Technology Revolution (2/0) The development of science is progressing in a very fast pace with time. Every kind of information is filled in our life. People are facing different challenges nowadays. The course tries to help students understand the revolutions in sciences. Besides, the course also tries to help students to develop some capability to resist the great variations of our society. Thus, we believe the course will be able to help students to improve their career plan and study.

H0031 Research Methods (I) (2/0) Introduction to the use of the scientific method in social science research. Consideration given to formulation of problems, techniques or gathering data, presentation and interpretation of research.

H0034 Political Economy of Asia-Pacific Region (2/0) The course focuses on analyzing some of the major issues of political economy in the Asia-Pacific region since the Asian Financial Crises in
1997/1998, including the current subprime crisis in the US.

**H0069 Political Development of North America (2/0)** This course aims to present the North America region – its historical, political and economic background, which will help students to understand the special position of the US in a world system and the specific role of Canada.

**H0093 Political Philosophy (2/0)** This course introduces the political philosophies of great significance; thereby, the students will be able to be critical toward the issues they encounter in the world.

**H0096 Introduction to International Political Economy (2/0)** International Political Economy is a study of relations between international politics and international economics. The main objective of this course is to familiarize students with the dynamic linkages between states and markets in the regional and global context.

**H0105 English on International Politics (2/0)** This course offers students relevant English learning materials out of CNN, Time, Newsweek, etc. on international politics for fostering students’ proficiency on professional English to learn International Politics.

**T0130 International Relations (2/0)** The general scope of this introductory course will primarily focus on the consideration of both basic concepts and key issues in the field of international relations. Critical subjects such as power politics, foreign policies, international conflicts, the role of force, trade, money and business, integration, environment will be examined accordingly throughout the semester.

**H0136 Politics I (3/0)** This course introduces the study of political life by providing an overview of a discipline described variously as Political Studies, Political Science, Government, or Politics. We will also examine essential concepts such as Governments and Governing, Political system, Regime, Political Ideologies, Democracy, and Political Parties. Since politics affect almost everything we do, the purpose of the course is equally broad: from exposing you to the socio-political world around us, to helping you clarify your own political beliefs and attitudes.

**H0137 Introduction to Mathematical Economics (2/0)** This course is an introduction to econometrics. It is a very important subject in social sciences when we want to study the relationships between two or more variables (for example between the sales of DVD and income). Many students find econometrics to be intimidating. But we will use an understandable approach, based on plain English so students who are not comfortable with mathematics do not need to worry. We emphasize the applied side of econometrics to let students practice what they learnt by using in classroom a notebook. Students will learn how to use EXCEL and EViews or SPSS.

**H0138 Introduction to Global Investment (2/0)** The name of this course, Global Investment, reflects the fact that assets management is now global rather than categorized as domestic or international. We will see how and why the benefit of global diversification in terms of risk and return has been increasingly recognized. We will focus with such concerns on for example how to value global firms as well as how monetary and fiscal policies affect exchange rates. The course will develop the analysis needed for the global investment and portfolio process by emphasizing on practice.

**H0140 Introduction to International Organizations (2/0)** The purpose of this course is to help students examine the fundamental working principles of international organizations since its inception. Efforts will be made to review the early stages of the development of international organizations. The creation and dysfunction of the League of Nations will be critical for students to comprehend the difficulty and dilemma regarding the efficacy of international organizations. Special attention will be devoted to the issues surrounding the United Nations.

**H0142 International Security (2/0)** This course introduces the study of security at international level and the development by providing an overview of a discipline described variously as national security, regional security, terrorist threat, proliferation of weapons of mass destruction and so on. We will also examine essential concepts such as the realist perspective of national security as well as the configuration of power and its impacts toward individual states.

**P0001 The Development of Human Right and Social Justice (2/0)** The protection of Human Rights
has become one of the milestones of Democracy. Especially in the post-Cold War era, Human Rights have been regarded as a universal value and widely proclaimed. This course is to offer a profounder cognition on human rights from the introduction of the fundamental idea of human rights and the existing global mechanism.

**T1064 Comparative Politics (2/0)** In this course you will engage in a broader global comparison of government in different types of regime around the world. Then you will explore more carefully those advanced industrial political systems most comparable to The Republic of China (Taiwan): West European and American politics, public policy and institutions. The case studies of American, British, French, and Germany governments which present interesting contrasts with Taiwan politics will be done in this course.

**T2353 Studies on Globalization (2/0)** The first part of the course deals with the basic concepts, nature, characteristics and dimensions of globalization. The second part analyses the impacts of globalization on the states, economies and societies with special emphasis on the Asia-Pacific region.
COLLEGE OF COMMUNITY DEVELOPMENT
COLLEGE OF COMMUNITY DEVELOPMENT

Dean: Lin, Jyh-horng (林志鴻)

Brief History

Community education is one of the main purposes of university education. Following the great success of university education, vocational education, and adult continuing education in Tamkang University, Dr. Clement C.P. Chang established the College of Community Development after Tamkang University's fourth wave to form an integrated university. The task is assigned to the Lanyang Campus for contributing to his hometown, I-Lan.

In order to reflect local cultural, industrial and economic features and to foster the management expertise for the community, the following departments were founded to offer Bachelor's degree programs: the Department of Leisure Industry Management, the Department of Service Industry Management, and the Department of Landscape Architecture and Management.

Mottos and Goals

Together We Can Do It.

Be Part of the Solution, Not Part of the Problem.

Future Development

The College of Community Development was established in 2005. It is the newest college in Tamkang University. The College will continue to strive for a change of its present status to become a full-fledged division of Tamkang University. Other future developments are to build strong connections with local governments, business executives, and community leaders, involve students in economic, cultural and social issues of the local development, and assist students in engaging in practical training with local business organizations, especially in hotel and tourism industries.

Course Descriptions

H0001 Envisioning the Future (2/0) This course focuses on the crucial issue: how to create the future. Design implications in created preferred futures are explored. What is the difference between the good and the prefect society? How can one ensure that one's political and social design is robust and does not close the future?

H0002 International Etiquette (0/2) This course introduces students to a knowledge concerning how “Manners Make Men and Women.” That is, the manners in which we dine, dress, and walk properly when interacting with people from a variety of cultural settings.

H0003 Global Technology Revolution (0/2) How will artificial intelligence change the way in which law is conducted? What is the impact of issues, such as globalization on the future of international law, terrorism, and world law? Can we keep up with changes in world economy and technology? Is a science court needed to address issues such as the rights of robots?

H0004 Exploring Local Community (0/2) This course focuses on discovering the beauty of I-lan County. How can hot springs make I-lan County famous? What are the unique tradition/culture/celebration and core values that attract tourists?

H0005 Oral Communication in English (2/0) This course aims to improve students’ English communication. Students will learn how to prepare a speech and how to perform it in class. Every student has to give a speech in class.

H0006 General English Proficiency Test (0/2) GEPT is gradually becoming a required certificate for everyone in the new language learning era. The purpose of this course is threefold: familiarizing students with the formats of GEPT at three levels, informing students the difference between GEPT
and TOEFL, and sharing some test taking and preparing strategies.

**H0007 Chinese Language Expression (2/0)** This Chinese language course intends to give students an intensive training so that they can express their thoughts and ideas in an elegant, precise and systematic manner.

**H0008 Chinese Writing (0/2)** This course attempts to improve students' writing ability and help them appreciate the value and beauty of language through practice.

**H0009 Introduction to Computer Science (2/0)** Topics include: (1) introduction to information society; (2) networking operations and applications; (3) word processing; (4) hardware and software of computers; (5) applications of computer; and (6) computer programming.

**H0010 Data Processing (0/2)** This is an introductory course on how to use the computer to administrate, process, and manage mass and complex data.
DEPARTMENT OF LEISURE INDUSTRIES

Degree Offered: B.B.A.

Chair: Wu, Jiin-po (吳錦波)

The Department

Our program focuses on the following: planning leisure space and environment, travel and tourism theory, leisure property marketing and management, related laws and regulations, etc. Courses such as land administration, architecture, tourism, real estate, urban plan and environmental plan are also incorporated into the curriculum. Business administration is the required course of the Department.

Faculty

Associate Professors
Wu, Jiinpo (吳錦波)

Degree Requirements

The Department of Leisure Industries offers a program at the undergraduate level, namely the Leisure Program.

Requirements for a degree of B.B.A. in Leisure Industries:
Completion of 128 credits of courses, including 70 credits of required courses and 12 credits of elective leisure courses.

Course Descriptions


B0032 Market Survey (0/2) This course systematically introduces market survey and research projects currently conducted by business organizations, and their deployment of statistical method in analyzing the collected content. This course will give students hands-on experiences in executing a market survey project step by step, including proposal writing, data collection, statistical analysis and final report writing.

B0302 Economics (2/0) This course discusses two main topics: A) microeconomic includes price and theory of supply and demand, analysis of acts of consumers, theory of production, structure of cost, structure of market, and supply and demand of production factors; and B) macroeconomics is the study of national income, determining rules for equalization of income standard.

H0023 Introduction to Life Science (0/2) This course helps students understand that they are the captains of their ships, and that one day they will guide this ship the way they want, and moreover, students will know that life is really eternal, free and unlimited.

H0026 Sexuality, Intimacy and Love (0/2) This course aims at exploring the most fundamental questions: What is sex and love? Sexual addiction—What? Why? How? What is the difference between sex and love? What is intimacy? and the trend of craving for intimate relationship. The purpose is to integrate play, laugh, love—always, and all ways.

H0027 Creation and Enhancement of the Mind and Spirit (2/0) The course is designed to cover nine correlated topics: 1) You Are the Source; 2) Becoming Abundant, Discovering What You Want; 3)

H0028 Living with Self-Awareness (2/0) This introductory course is designed to analyze core issues related to the journey of searching for self and identity within a multicultural global society. It begins with discussions on the function of education and how to face oneself and the world, followed by the problem of freedom and love. Creative ways of bringing out collective wisdom include: listening, creative discontent, wholeness of life and ambition, inward beauty, the confidence of innocence, self discipline, renewing the mind, the river of life and the attentive mind, the need to be alone, and the energy of life.

H0153 Criminal Law (0/1) This course is to teach students to understand the basic criminal law and abide by the law.

M0036 Public Policy (0/2) This course attempts to prepare students with the most current knowledge of what public policy and analytical model are, policy maker and its environment, policy formation and formulation, techniques of policy formulation, policy adoption, policy implementation, and policy evaluation.

M0206 Introduction to Political Science (2/0) This course offers an introduction to fundamental concepts of politics, including the state, government and its power, political ideology, public opinion and election, political culture, party and interest group, and international politics.

M0405 Management (2/0) This course offers students not only theoretical frameworks that guide managerial activities but also illustrations and examples of how and when those theories do and do not work in both small businesses, large businesses, and non-profit organizations.

M0517 Statistics (2/0) This course introduces basic concepts of statistical methods, including probabilistic model, statistical inferences, hypothesis testing, linear regression model, time series, analysis of variance among others.

M0590 Introduction to Information Management (2/0) This course deals with impacts and solutions as applied to information systems. Topics include the information development procedure, strategic role of IS, human and organization factors within MIS, and ways to apply information techniques.

M0821 Introduction to Multimedia (0/2) Topics include: digital photography, digital video and editing, with special emphasis on the use of related equipments and software. There will be lectures given by guest professionals.

O0002 International Trends Analysis (0/2) This course aims to identify key issues in international trends with a special focus on implications of globalization and management of international economy. On the macro level, we analyze the issues of crippling indebtedness of developing countries, international financial instability, the impasse in dealing with global warming, international trade agreements and intellectual property laws, etc. On the micro level, we will explore what corporate strategies have been forged in the emerging markets, the euro zone, and the how corporations play the competitive games in Asia.

O0003 Labor Relations (0/2) This course attempts to explore the fundamental questions of the relations between labor and capital. It inquires: What are the rights and duty between the laborer and the capital? What are the function and legal status of the labor unions? How can the government department do to implement control and surveillance? How is the harmonious cooperation of labor-capital relations established?

O0004 Laws and life (0/2) This course introduces basic civil law and criminal law and enables students to utilize it effectively in everyday life.

O0005 Community Development (2/0) Theory and technology are changing with the progression of time. This course is designed to help students master the knowledge. Each week an eminent scholar or
an expert will be invited to give a speech, and that will enable students to obtain the latest information about community development.

**00006 Development of Regional Culture (2/0)** This course focuses on the development of a major civilization and its social systems. Two approaches, historical or chronological explanation and social systems analysis involving spatial frameworks, are developed and integrated in the course. An understanding of the development of regional cultures necessitates both an appreciation of their historical origins and an awareness of social theory that explains process of cultural evolution.

**00007 Seminars on Community Development (2/0)** This course aims to invite well-known community developers, leaders or government officers to conduct colloquia with students. Through the exchange of ideas and discussions of practical issues encountered in community development, this course will enable students to deal with real world problems in community development.

**00008 Special Topics in Community Development (0/2)** This course, through community culture research, will form the concrete subject for the main teaching content. It arranges two related subject groups in each term, first teaching this subject's basic idea and the knowledge, then inviting some experts to give lectures. It enables students to systematically inquire and further explore the connotation of the subject.

**00008 Special Topics in Community Development (2/0)** This course addresses current issues in Community Development, particularly those of interest to students and faculty involved. Topics include Community Health, Housing, Enterprise Development, Politics, Diversity, and Administration. The focus of the course is to develop an understanding of the role and function of local, regional, state, and national governments in the community development process.

**00012 Leisure Theory (2/0)** Leisure has become an important part of life. This course teaches students how to search for leisure development and the future of Taiwan’s leisure tendency.

**00013 The Marketing Management of Leisure Industry (0/2)** This course teaches students skills of sales and marketing analysis in leisure industry.

**00014 Special Topics in Leisure Management (2/0)** This course provides a ground in psychological and social psychological principles and how these may be understood and applied within leisure contexts and settings. It also seeks to build a critical awareness of the methods and assumptions underpinning psychological inquiry.

**00015 Special Topics in Leisure Management (0/2)** This course provides a foundation of professional knowledge, skills and values necessary for a career in leisure management and related industries. It emphasizes the development of work-ready skills relevant for leisure industries and capabilities to assess, plan, design, implement and evaluate leisure experiences for a range of organizational settings. The design of leisure experiences will be explored within a framework of social and corporate responsibility. On successful completion students will have gained relevant expertise in leadership, management, planning, research and programming.

**00030 Hotel Management (2/0)** This course aims to introduce the development and history of hotel industry, and furthermore, help students get the picture of hotel business nowadays and the general job function of each department in a hotel to help students establish an overall perception of hotel operation and management, and the general management techniques, including communication, interpersonal relationship, and strategy thinking, and so on.

**00032 Sociology of Leisure (2/0)** Leisure cultures develop over time, and under the influence of historic and economic as well as social forces. The goals are: (1) To understand basic concept of sociology; (2) To establish a base for future works on the management, research and development of leisure industry from another viewpoint. We will talk about leisure and work, leisure and family, leisure and life cycle, leisure and class, leisure and gender.

**00033 Mythology and Life (0/1)** The symbolism of myth is an attempt to portray the basic energies behind life of human beings, and therefore attracts many psychologists or anthropologists. Freud's Oedipus complex or narcissism, for example, has their Greek mythic origins. This course introduces
twelve mythic characters, types of personality and some relevant psychological principles or anthropologist points of view which are used in understanding Self more.

**O0040 Club Management of Sports and Recreation (2/0)** This course mainly focuses on the current state of operation of sport facilities and sport and recreation club in Taiwan, and it provides students with the ideas of management and planning of sport club.

**O0049 Introduction to Travel and Tourism (2/0)** This course provides an introduction to travel and tourism from local to international levels, an overview of the scale, scope and organization of the industry, emphasis on development of natural, cultural, heritage, and recreational resources of tourism, and identification of issues related to the economic, technological, legal and political aspects of tourism.

**S0467 Applied Statistics (0/2)** This course provides students with basic knowledge of data collection and description, two-dimension analysis, distribution of probability, Z.T. Chi-Square, F distribution, statistical test, regression analysis, categorical data analysis, variance analysis and non-parametric statistics.

**T0070 Sociology (2/0)** This course offers an introduction to the basic theoretical perspectives of sociology, social organizations, social stratification, social interaction, population and family life, culture and socialization, race and ethnicity, social change and development.

**T1238 Environmental Ethics (2/0)** This course is designed to provide a fairly comprehensive overview of the key philosophical issues and arguments within the growing field of environmental ethics. It will be of especial value both to Philosophy majors and to those majoring in Environmental Studies. After looking at some basic issues in ethical theory, we shall examine several anthropocentric arguments for environmental protection. We will then proceed to examine some zoocentric approaches. Next we will consider biocentric arguments, and then ecocentric ones. We will then examine the arguments presented by certain environmentalist or ecological movements, such as deep ecology, social ecology, ecofeminism and the environmental justice movement. Finally, after considering the philosophical roots of what many consider to be an environmental crisis, we shall consider whether certain kinds of action in response to such a crisis are morally permissible or not.
DEPARTMENT OF OPERATIONS MANAGEMENT
IN SERVICE INDUSTRIES

Degree Offered: B.B.A.

Chair: Wu, Jiin-po (吳錦波)

The Department

By offering courses on information service, the Internet and media service, distribution and transportation service, consuming and employee dispatching industry, we provide professional training that incorporates theories and practical experiences. As to the required courses, business administration, as well as the application of information technology in service industry and its future development are emphasized.

Faculty

Associate Professor
Wu, Jiin-po (吳錦波)

Degree Requirements

The Department of Operations Management in Service Industries offers one program at the undergraduate level, namely the Operations Management Program.
Requirements for a degree of B.B.A. in Operations Management in Service Industries:
Completion of 128 credits of courses, including 70 credits of required courses and 12 credits of elective operations courses.

Course Descriptions

Undergraduate Courses


B0032 Market Survey (0/2) This course systematically introduces market survey and research projects currently conducted by business organizations, and their deployment of statistical method in analyzing the collected content. This course will give students hands-on experiences in executing a market survey project step by step, including proposal writing, data collection, statistical analysis and final report writing.

B0302 Economics (2/0) This course discusses two main topics: A) microeconomic includes price and theory of supply and demand, analysis of acts consumers, theory of production, structure of cost, structure of market, and supply and demand of production factors; and B) macroeconomics is the study of national income, determining rules for equalization of income standard.


M0036 Public Policy (0/2) This course attempts to prepare students with the most current knowledge
of what public policy and analytical model are, policy maker and its environment, policy formation and formulation, techniques of policy formulation, policy adoption, policy implementation, and policy evaluation.

**M0121 Service Management (0/2)** This course provides an overview of service management from an integrated viewpoint with a focus on customer satisfaction. The material will integrate operations, marketing, strategy, information technology and organizational issues.

**M0206 Introduction to Political Science (2/0)** This course offers an introduction to fundamental concepts of politics, including the state, government and its power, political ideology, public opinion and election, political culture, party and interest group, and international politics.

**M0405 Management (2/0)** This course offers students not only theoretical frameworks that guide managerial activities but also illustrations and examples of how and when those theories do and do not work in both small businesses, large businesses, and non-profit organizations.

**M0517 Statistics (2/0)** This course introduces basic concepts of statistical methods, including probabilistic model, statistical inferences, hypothesis testing, linear regression model, time series, analysis of variance among others.

**M0590 Introduction to Information Management (2/0)** This course deals with impacts and solutions as applied to information systems. Topics includes information development procedure, strategic role of IS, human and organization factors within MIS, and ways to apply information techniques.

**M0821 Introduction to Multimedia (0/2)** Topics of this course include: digital photography, digital video and editing, with special emphasis on the use of related equipments and software. There will be lectures given by guest professionals.

**M1087 Enterprise Resource Planning (2/0)** This course describes how fundamental operation and analytical process are supported and integrated with ERP and explains how the ERP runs a business in the area of accounting, production, materials management and procurement, sales, human resource management, and service.

**M1105 Internet Marketing (0/2)** This course offers a basic knowledge of Internet Marketing; it teaches students how an enterprise information system runs a business in the internet and how to utilize the network to manage the e-commercial on the Internet.

**M1154 Customer Relation Management (0/2)** This course teaches students to understand basic concepts of customer relation management (CRM) and the way to integrate sales, marketing and customer service in an enterprise in order to increase customers' value.

**O0001 Analysis of Economic Issues (0/0)** This course introduces analytical thinking and methodologies for students when attempting to deal with economic issues. The contents emphasize methods to realize an economic issue, to identify key points of the issue, to specify analytical methodology, to draw economic intuition and implication from the analytical results, and then to explain the focused economic issue.

**O0002 International Trends Analysis (2/0)** This course aims to identify key issues in international trends, with a special focus on implications of globalization and management of international economy. On the macro level, we analyze the issues of crippling indebtedness of developing countries, international financial instability, the impasse in dealing with global warming, international trade agreements and intellectual property laws, etc. On the micro level, we will explore what corporate strategies have been forged in the emerging markets, the euro zone, and the how corporations play the competitive games in Asia.

**O0003 Labor Relations (0/2)** This course attempts to explore the fundamental questions of the relations between labor and capital. It inquires: What are the rights and duty between the laborer and the capital? What are the function and legal status of the labor unions? How can the government department do to implement control and surveillance? How is the harmonious cooperation of labor-capital relations established?
Laws and life (0/2) This course introduces basic civil law and criminal law and enables students to utilize it effectively in everyday life.

Community Development (0/2) Theory and technology are changing with the progression of time. This course is designed to help students master the knowledge. Each week an eminent scholar or expert will be invited to give a speech, and that will enable students to obtain the latest information about community development.

Development of Regional Culture (2/0) This course focuses on the development of a major civilization and social systems. Two approaches, historical or chronological explanation and social systems analysis involving spatial frameworks, are developed and integrated in the course. An understanding of the development of regional cultures necessitates both an appreciation of their historical origins and an awareness of social theory that explains process of cultural evolution.

Seminars on Community Development (2/0) This course aims to invite well-known community developers, leaders or government officers to conduct colloquia with students. Through the exchange of ideas and discussions of practical issues encountered in community development, this course will enable students to deal with real world problems in community development.

Special Topics in Community Development (0/2) This course, through community culture research, will form the concrete subject for the main teaching content. It arranges two related subject groups in each term, first teaching this subject's basic idea and the knowledge, then inviting some experts to give lectures. It enables students to systematically inquire and further explore the connotation of the subject.

Special Topics in Community Development (2/0) This course will address current issues in Community Development, particularly those of interest to students and faculty involved. Topics include Community Health, Housing, Enterprise Development, Politics, Diversity, and Administration. The focus of the course is to develop an understanding of the role and function of local, regional, state, and national governments in the community development process.

Introduction to Service Management (2/0) This course provides an overview of the service management. It will focus on a preliminary investigation of service industries in Taiwan, and on the comparison of Taiwan’s service industry with those of developed countries. It will also discuss the role of service industry in a digital economy and how to deploy information technology to successfully run a service-oriented company.

Seminars on Service Management (0/2) This seminar course will invite well-known practitioners to present their views of service management. The presentations are expected to integrate operations, marketing, strategy, information technology and organizational issues. Finally, because the service sector is the fastest-growing sector of the economy, this course is intended to help students discover entrepreneurial opportunities.

Special Topics in Service Management (0/2) This course explores the dimensions of successful service firms. It prepares students for enlightened management and suggests creative entrepreneurial opportunities. Outstanding service organizations are managed differently than their “merely good” competitors. Actions are based on totally different assumptions about the way success is achieved. The results show not only in terms of conventional measures of performance but also in the enthusiasm of the employees and quality of customer satisfaction. Beginning with the service encounter, service managers must blend marketing, technology, people, and information to achieve a distinctive competitive advantage.

The Management of Leisure Industries, Travel Agencies and Service Business (2/0) This course teaches students how to manage and run service business, and it includes all of leisure industries and travel agencies.

Civil Laws (2/0) This course introduces basic civil laws and its applications to everyday life.

The Spirit of Science (0/2) The course starts with introducing the very fundamental questions of what science is and how mathematics is possible? Related topics include the law of causality, rules
of reasoning in philosophy, laws of motion and relativity. However, the most essential questions remain as what true science and the origin of species—the meaning of human life itself—are.

**S0467 Applied Statistics (0/2)** This course provides students with basic knowledge of data collection and description, two dimension analysis, distribution of probability, Z.T. Chi-Square, F distribution, statistical test, regression analysis, categorical data analysis, variance analysis and non-parametric statistics.

**T0070 Sociology (2/0)** This course offers an introduction to basic theoretical perspectives of sociology, social organizations, social stratification, social interaction, population and family life, culture and socialization, race and ethnicity, social change and development.

**T1238 Environmental Ethics (2/0)** This course is designed to provide a fairly comprehensive overview of the key philosophical issues and arguments within the growing field of environmental ethics. It will be of especial value both to Philosophy majors and to those majoring in Environmental Studies. After looking at some basic issues in ethical theory, we shall examine several anthropocentric arguments for environmental protection. We will then proceed to examine some zoocentric approaches. Next we will consider biocentric arguments, and then ecocentric ones. We will then examine the arguments presented by certain environmentalist or ecological movements, such as deep ecology, social ecology, ecofeminism and the environmental justice movement. Finally, after considering the philosophical roots of what many consider to be an environmental crisis, we shall consider whether certain kinds of action in response to such a crisis are morally permissible or not.
DEPARTMENT OF LANDSCAPE ARCHITECTURE 
AND MANAGEMENT

Degree Offered: B.L.A.

Chair: Lin, Ping-houng (林炳宏)

The Department

In combining professional skills of landscaping architecture design, ecology and environmental science, and integrated management skills, we equip our students with the ability of designing and planning outdoor space environment and knowledge of natural environment. The central curriculum includes professional training of "fundamental design" and "landscape architecture;" it also focuses on theory and practice of business administration.

Faculty

Associate Professor
Lin, Ping-houng (林炳宏)

Degree Requirements

The Department of Landscape Architecture and Management offers one program at the undergraduate level, namely the Leisure Program.
Requirements for a degree of B.L.A. in Landscape Architecture and Management: Completion of 128 credits of courses, including 70 credits of required courses and 12 credits of elective leisure courses.

Course Descriptions

Undergraduate Courses

B0032 Market Survey (0/2) This course systematically introduces market survey and research projects currently conducted by business organizations, and their deployment of statistical method in analyzing the collected content. This course will give students hands-on experiences in executing a market survey project step by step, including proposal writing, data collection, statistical analysis and final report writing.

B0302 Economic (2/0) This course discusses two main topics: (1) microeconomics includes price and theory of supply and demand, analysis of acts consumers, theory of production, structure of cost, structure of market, and supply and demand of production factors; and (2) macroeconomics is the study of national income, determining rules for equalization of income standard.

E0180 Strength of Materials (2/0) The main purposes of this course are to help students: (1) develop a working knowledge of the relations between the loads applied to a non-rigid body made of a given material and the resulting deformations of the body; (2) get the concepts and skills that form the foundation of all structural design.

E0969 Applied Mechanics (2/0) The main objective of this course is to develop students’ ability to analyze any problems in a simple and logical manner and to apply to its solution a few basic principles.

H0023 Introduction to Life Science (0/2) This course helps students understand that they are the captains of their ships, and that one day they will guide this ship the way they want; moreover, students will know that life is really eternal, free and unlimited.

H0026 Sexuality, Intimacy and Love (2/0) This course aims at exploring the most fundamental questions: What is sex and love? Sexual addiction---What? Why? How? What is the difference
between sex and love? What is intimacy? and what is the trend of craving for intimate relationship? The purpose is to integrate play, laugh, love—always, and all ways.

**M0036 Public Policy (0/2)** This course attempts to prepare students with the most current knowledge of what public policy and analytical model are, policy maker and its environment, policy formation and formulation, techniques of policy formulation, policy adoption, policy implementation, and policy evaluation.

**M0206 Introduction to Political Science (2/0)** This course offers an introduction to fundamental concepts of politics, including the state, government and its power, political ideology, public opinion and election, political culture, party and interest group, and international politics.

**M0405 Management (2/0)** This course offers students not only theoretical frameworks that guided managerial activities but also illustrations and examples of how and when those theories do and do not work in both small businesses, large businesses, and non-profit organizations.

**M0517 Statistics (0/2)** This course introduces basic concepts of statistical methods, including probabilistic model, statistical inferences, hypothesis testing, linear regression model, time series, and analysis of variance among others.

**O0001 Analysis of Economic Issues (0/2)** This course introduces analytical thinking and methodologies for students when attempting to deal with economic issues. The contents emphasize methods to realize an economic issue, to identify key points of the issue, to specify analytical methodology, to draw economic intuition and implication form the analytical results, and then to explain the focused economic issue.

**O0002 International Trends Analysis (2/0)** This course aims to identify key issues in international trends, with a special focus on implications of globalization and management of international economy. On the macro level, we analyze the issues of crippling indebtedness of developing countries, international financial instability, the impasse in dealing with global warming, international trade agreements and intellectual property laws, etc. On the micro level, we will explore what corporate strategies have been forged in the emerging markets, the euro zone, and the how corporations play the competitive games in Asia.

**O0003 Labor Relations (0/2)** This course attempts to explore the fundamental questions of the relations between labor and capital. It inquires: What are the rights and duty between the laborer and the capital? What are the function and legal status of the labor unions? How can the government department do to implement control and surveillance? How is the harmonious cooperation of labor-capital relations established?

**O0004 Laws and Life (0/2)** This course introduces basic civil law and criminal law and enables students to utilize it effectively in everyday life.

**O0005 Community Development (0/2)** Theory and technology are changing with the progression of time. This course is designed to help students master the knowledge. Each week an eminent scholar or expert will be invited to give a speech, and that will enable students to obtain the latest information about community development.

**O0006 Development of Regional Culture (2/0)** This course focuses on the development of a major civilization and social systems. Two approaches, historical or chronological explanation and social systems analysis involving spatial frameworks, are developed and integrated in the course. An understanding of the development of regional cultures necessitates both an appreciation of their historical origins and an awareness of social theory that explains process of cultural evolution.

**O0006 Region Culture Development (0/2)** From the viewpoint of human evolution and cultural development, this course discusses individual environment experience, the environmental awareness, and the significance of development which forms with the Chinese stereotypical culture's environment experience. This course also stresses how this kind of environmental awareness, based on the theory and the technical explanation, develops and creates regional culture characteristics.
O0007 Seminars on Community Development (2/0) This course aims to invite well-known community developers, leaders or government officers to conduct colloquia with students. Through the exchange of ideas and discussions of practical issues encountered in community development, this course will enable students to deal with real world problems in community development.

O0008 Special Topics in Community Development (2/0) This course, through community culture research, will form the concrete subject for the main teaching content. It arranges two related subject groups in each term, first teaching this subject's basic idea and the knowledge, then inviting some experts to give lectures. It enables students to systematically inquire and further explore the connotation of the subject.

O0008 Special Topics in Community Development (0/2) This course addresses current issues in Community Development, particularly those of interest to students and faculty involved. Topics include Community Health, Housing, Enterprise Development, Politics, Diversity, and Administration. The focus of the course is to develop an understanding of the role and function of local, regional, state, and national governments in the community development process.

O0016 Elements of Landscape Architecture Design (2/0) This studio introduces basic landscape design elements as a preparation for further design studios. Topics include topography, plant materials, pavement, structure, lighting, and water features. Design exercises emphasize the spatial experiences created by the integration of design elements.

O0017 Village Landscape Design (0/2) This course aims to train students to possess the knowledge of the botanical garden ecology and the creative ability of an ideal botanical garden. It enables students to derive and to profit from our traditional botanical garden culture, the fusion natural law, and the humanities tradition. It also enables students to synthesize the botanical garden ecology and the aesthetic energetic function to create the ideal condition and contrasts of the regional environment atmosphere.

O0018 Urban Landscape Design (0/2) This course instructs students on acting according to the urban climate, the soil and the flora characteristic, the economic basis and the cultural inside story, the utilization ecology principle and the technology, the simulation of natural ecosystem, and the economical urban planning.

O0019 Graduation Project (0/2) This course synthesizes different kinds of landscape theories and the practical technology project training curriculum. This curriculum starts from the design topic hypothesis, introduces basic theory and specialized technology, completes the work by systematization's procedure, and enhances students’ own independent thinking and actual problem-solving ability in vivid creation process and research.

O0021 Computer Aided Design (2/0) This course will focus on creating 2D and 3D drawings with (CAD) software. Students will possess basic drawing techniques and be able to pursue advanced design courses.

O0024 Landscape Design (4/0) This course teaches the fundamental skills of proceeding small to middle scale landscape design and enables students to manipulate landscape design elements, such as landform, planting, paving, structures, etc. and their dimension, scales, materials and texture through lectures, intense practice of sketches, drawings and design critics.

O0025 Landscape Material Construction (0/2) An environmental approach to public and private landscaping photographs and illustrations will be discussed in this course. Knowledge of the material characteristics and construction relationship is the main content.

O0026 Landscape Construction and Detailing Design (0/2) In this course we teach students knowledge concerning technical specifications of landscape details, contemporary and traditional method of landscaping.

O0026 Computer Landscape Design (2/2) This course focuses on creating 2D and 3D drawings with (CAD) software. Students will possess basic drawing techniques and be able to pursue advanced design courses.
O0029 Horticulture Science (2/0) The course is mainly designed for students of the Landscape Department. The subjects of the course will focus on landscape gardening and environmental horticulture. Students will learn some basic botany and think about how to choose proper plants in their design and how to maintain a garden.

O0035 City and Countryside Landscape Design (0/2) This course enables students to better understand the urban character, style, the arrangement, and the characteristic. It also enables students to take the natural ecological condition and the native plant as the elementary knowledge, and to customize public sentiment, traditional culture, religion, fusion thoughts and historical relics for primary coverage of this project curriculum.

O0037 English (0/2) Music is everywhere and language itself is music. Many of us have difficulty in remembering poetry but no difficulty in remembering lyrics. The answer is music. Many students have great fear of English-learning. With the help of English songs, this course aims at looking for the pleasure of English-learning.

O0043 Fundamentals of Landscape Design (2/0) This landscape design studio introduces the vocabulary for describing, analyzing, and designing landscapes. A series of design exercises explore the principles and conceptual strategies for organizing and articulating landscape spaces to accommodate human use. Design proposals will be developed and presented with drawings and models.

O0047 Intellectual Property (IP) Rights (2/0) This course introduces the related IP case and IP related law to students, educating them to abide by the law in their everyday life.

S0467 Applied Statistics (0/2) This course provides students with basic knowledge of data collection and description, two dimension analysis, distribution of probability, Z.T. Chi-Square, F distribution, statistical test, regression analysis, categorical data analysis, variance analysis and non-parametric statistics.

T0070 Sociology (2/0) An introduction to the basic theoretical perspectives of sociology, social organizations, social stratification, social interaction, population and family life, culture and socialization, race and ethnicity, social change and development.

T1238 Environmental Ethics (2/0) This course is designed to provide a fairly comprehensive overview of the key philosophical issues and arguments within the growing field of environmental ethics. It will be of especial value both to Philosophy majors and to those majoring in Environmental Studies. After looking at some basic issues in ethical theory, we shall examine several anthropocentric arguments for environmental protection. We will then proceed to examine some zoocentric approaches. Next we will consider biocentric arguments, and then ecocentric ones. We will then examine the arguments presented by certain environmentalist or ecological movements, such as deep ecology, social ecology, ecofeminism and the environmental justice movement. Finally, after considering the philosophical roots of what many consider to be an environmental crisis, we shall consider whether certain kinds of action in response to such a crisis are morally permissible or not.
## APPENDIX A:
### TAMKANG’S SISTER UNIVERSITIES

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APPENDICES

APPENDIX B: UNIVERSITY PUBLICATIONS

Tamkang University has an ambitious publications program for faculty and student research. The University publications include:

**Tamkang Journal of Science and Engineering**
Tamkang University publishes the *Tamkang Journal of Science and Engineering*, an international journal indexed by Compendex EI, which accepts original research articles in all disciplines of science and engineering.

**Tamkang Journal of Humanities and Social Sciences**
The present journal, founded in 1998, is dedicated to scholarly research in the humanities and social sciences. All articles are refereed and have both Chinese and English abstracts.

**The Journal of Education Media & Library Sciences (JoEMLS)**
The journal is an open access, refereed and international scholarly journal, dedicated to easy access to results of research across a wide range of information and library-related disciplines. The JoEMLS invites manuscripts for a professional information and library audience that report empirical, historical, and philosophical research with implications for librarianship or those explore theoretical and practical aspects of the field. Articles are devoted to studies related to the field of library science, information science and IT, the book trade and publishing. Subjects on instructional technology and information communication pertaining to librarianship are also appreciated. The JoEMLS encourages interdisciplinary authorship because, although library science is a distinct discipline, it is in the mainstream of information science leading to the future of InfoLibrary. The JoEMLS, published by the Tamkang University Press and co-published with the Department of Information & Library Science (DILS) and Chueh Sheng Memorial Library, was formerly the *Journal of Educational Media Science* (September 1980-June 1982) and *Bulletin of Educational Media Science* (March 1970-June 1980). The JoEMLS has been a quarterly as well as a new title since September 1982, appearing in spring, summer, fall and winter issues. The JoEMLS is indexed or abstracted in Index to Chinese Periodicals, Chinese Electronic Periodicals Service(CEPS), Taiwan Humanities Citation Index(THCI),...
Tamkang Journal of Mathematics

Tamkang Journal of Mathematics, published by the Department of Mathematics, accepts original papers in mathematics. The publication began in 1970 as a semi-annual periodical that provides a forum for scholarly exchange of ideas in mathematics, and is the first such international journal in Taiwan. It became a quarterly journal in 1985. The four issues are released at the end of March, June, September and December. Articles published in Tamkang Journal of Mathematics cover diverse mathematical disciplines. Submission of papers comes from all over the world. All articles are subject to peer review from an international pool of referees. The current backlog is about eighteen months. Tamkang Journal of Mathematics is indexed by Math. Review, Zentralblatt Für Mathematik und ihre Grenzgebiete, and other review/compilations. It also has exchange arrangement with about 250 journals or institutions.

The International Journal of Information and Management Sciences

The International Journal of Information and Management Sciences (IMS) is published by the Department of Management Sciences and Decision Making. The Journal was first published in 1990. In fact, it is an extension of two journals, namely, International Journal of Policy and Information (1980-1988) and Tamkang Journal of Management Sciences (1982-1989), both of the two journals were published by Tamkang University. IMS focuses on topics of Information, Management Sciences, Operation Research, Decision Theory, System Theory, Statistics, Business Administration and Finance. Certainly, it involves not only numerical computations or statistical simulations, but also applications of decision support system, expert system, knowledge-based systems, artificial intelligence, etc. IMS aims to elucidate policy-making process, with an emphasis on the applications, especially on policy analysis of information management technology. It also explores the contributions and implications of knowledge-based models in the study of socio-economic systems, develops applications of computer-process database and knowledge-based to policy analysis and integrates the coupling of these various systems intelligently to a particular community. Another aim of this journal is to provide a forum for researchers who attempt to quantify research findings or formulate a quantitative model from qualitative data. The International Journal of Information and Management Sciences is cited in EI Compendex, INSPEC, SCOPUS, MathSci, Pascal, ZMath and Mathematical Reviews, and is submitting to ISI Thomson for Science Citation Index (SCI expanded), and Taiwan Social Science Citation Index (TSSCI).

Publication: Tamkang University
**Tamkang Review**

*Tamkang Review*, currently a biannual published in June and December by the Department of English, is devoted to literary and cultural studies. Inaugurated in 1970, Tamkang Review has been recognized as one of the leading scholarly journals in Taiwan.

**Ecohumanism**

First published in 2002, the bilingual journal *Ecohumanism* is devoted to ecocriticism, environmental literature, native American literature, science fiction and ecotopian imagination, sense of place and (urban) space, and “the ecological crisis” in the humanities. It is the official journal of ASLE-Taiwan.

**Tamkang Journal of International Affairs**

*Tamkang Journal of International Affairs*, published by the College of International Studies, is an interdisciplinary quarterly published in January, April, July and October, respectively. Its main goal is to provide an open forum on a wide range of topics related to international relations, political economy and security in the contemporary world.

**Journal of Futures Studies**

The Graduate Institute of Futures Studies publishes the *Journal of Futures Studies*. It is a trans-disciplinary journal, with a goal to develop high-quality and futures-oriented research and thinking based on the evolving knowledge base of Futures Studies.
Journal of Contemporary Accounting

Journal of Contemporary Accounting is published semiannually by the Department of Accounting and Tamkang Accounting Educational Foundation. The journal provides a forum for the publication of high-level theoretical and applied accounting manuscripts with academic significance in terms of their originality and contribution. Correspondence may be addressed to The Editor, Journal of Contemporary Accounting.

Journal of Information Management--Concepts, Systems, and Applications

Journal of Information Management--Concepts, Systems, and Applications is published semiannually by the Department of Information Management. All articles are refereed with Chinese and English abstracts.

Journal of Law and Political Science

Journal of Law and Political Science, published by the Department of Public Administration, provides a forum for theoretical discussion and practical experience exchange in terms of their originality and contribution.

Management Research

The journal was first published in 2001 by the Department of Business Administration. Scholars are encouraged to submit manuscripts on any aspect of business management. The journal adopts a highly rigorous and lengthy review process.
APPENDICES

APPENDIX C: FACULTY

Bair, Dyi-ching (Ph.D., Tamkang U., Taiwan, ROC), Associate Professor of Business Administration
Bednarsch, Roland (Ph.D., U. of Leipzig, Germany), Assistant Professor of German
Bee, Kuang-chein (M.Arch., Columbia U., USA), Assistant Professor of Architecture
Blanco Pena, Jose Miguel (Ph.D., U. of Navarra, Spain), Associate Professor of Spanish
Boileau, Gilles (Ph.D., U. of Paris IV, France), Professor of French
Brewer, Warren A. (Ph.D., UCLA, USA), Associate Professor of English
Brink, Dean Anthony (Ph.D., U. of Chicago, USA), Assistant Professor of English
Brown, Iain Kelsall (MA, Queen's U., Canada), Lecturer in English
Chan Chang, Whei-ching (Ph.D., Michigan State U., USA), Chair and Professor of Mathematics
Chan, Hsiu-jung (Ph.D. Cand., Kobe U., Japan), Lecturer in International Business
Chan, Mignonne Man-jung (Ph.D., Boston U., USA), Assistant Professors of Americas
Chan, Wai-ching (Ph.D., Rensselaer Polytechnic Inst., USA), Professor of Physics
Chang, Bao-guang (Ph.D., National Chengchi U., Taiwan, ROC), Associate Professor of Accounting
Chang, Ben-hang (BA, Shih Hsin U., Taiwan, ROC), Professor of Chinese Literature
Chang, Chao-ching (Ph.D., National Taiwan U., Taiwan, ROC), Assistant Professor of Chemical and Materials Engineering
Chang, Cheng-hsin (Ph.D., Colorado State U., USA), Associate Professor of Civil Engineering
Chang, Cheng-liang (Ph.D., Michigan State U., USA), Professor of Chemical and Materials Engineering
Chang, Chia-hsiung (MA, Arkansas State U., USA), Lecturer in Physical Education Instruction Section
Chang, Chia-i (Ed.D., Stanford U., USA), President of the U. and Professor of Educational Policy and Leadership
Chang, Chih-yung (Ph.D., National Central U., Taiwan, ROC), Professor of Computer Science and Information Engineering
Chang, Chiung-sui (Ph.D., U. of Illinois, USA), L.H.D.Litt.D. Founder of the U. and Professor Emeritus of Americas
Chang, Der-wen (Ph.D., U. of Texas-Austin USA), Professor of Civil Engineering
Chang, Feng-cheng (Ph.D., National Chiao Tung U., Taiwan, ROC), Assistant Professor of Innovative Information and Technology
Chang, Fu-chang (Ph.D., U. of Cologne, Germany), Assistant Professor of European Studies
Chang, Henry Ching-lin (Ph.D., Polytechnic U., USA), Professor of Physics
Chang, Hsiao-jih (Ph.D., Tamkang U., Taiwan, ROC), Chair Professor of Management Sciences
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Chang, Pao-hsing (Ph.D., U. of Pennsylvania, USA), Associate Professor of Water Resources and Environmental Engineering
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De Ramos Abreu, José Arlindo (Ph.D., Complutense U. of Madrid, Spain), Associate Professor of Spanish
Deng, Chiu-rung (Ph.D., SUNY-Buffalo, USA), Assistant Professor of English
Deng, Jian-bang (Ph.D., Philipps-U. of Marburg, Germany), Director and Associate Professor of Futures Studies
Deng, Jin-Pei (Ph.D., National Taiwan U., Taiwan, ROC), Assistant Professor of Chemistry
Deng, Wen-shuenn (Ph.D., National Dong Hwa U., Taiwan, ROC), Associate Professor of Statistics
Don, Trong-ming, (Ph.D., U. of Connecticut, USA), Professor of Chemical and Materials Engineering
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Hao, Chung-jen (Ph.D., U. of Illinois, USA), Associate Professor of Insurance
Her, Wan-i (Ph.D., Complutense U. of Madrid, Spain), Associate Professor of Spanish
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