



# **International Technological University**

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# **Student Handbook**

**August 1, 2013 – July 31, 2014**

**International Technological University**

**355 W. San Fernando St  
San Jose, CA 95113 USA**

**Main: (888) 488-4968**

**Fax: (408) 400-2001**

**<http://www.itu.edu>**

This publication is an announcement of the current programs and course offerings of International Technological University. It is intended for information purposes only and is subject to change without notice. Courses, faculty assignment, prerequisites, graduation or completion requirements, standards, tuition and fees, and programs may be changed from time to time. Courses are not necessarily offered each term or each year.

International Technological University retains the exclusive right to judge academic proficiency and may decline to award any degree, certificate, or other evidence of successful completion of a program, curriculum, or course of instruction based thereupon. While some academic programs described herein are designed for the purposes of qualifying students for registration or certification, successful completion of any such program in no way assures registration or certification by any agency.

International Technological University is accredited by the Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges (WASC), 985 Atlantic Avenue, Suite 100, Alameda, CA 94501; (510) 748-9001. Questions regarding the University's accreditation may be directed to the institution or to WASC at [wascsr@wascsenior.org](mailto:wascsr@wascsenior.org) or (510) 748-9001.

International Technological University (ITU) is a private institution. The University has received approval to operate from the Bureau for Private Postsecondary Education ([www.bppe.ca.gov](http://www.bppe.ca.gov)). An approval to operate means compliance with state standards as set forth in the California Education Code, Title 3, Division 10, Part 59, Chapter 8.

### **GENERAL INFORMATION FOR PROSPECTIVE STUDENTS**

As a prospective student, you are encouraged to review this catalog prior to signing an enrollment agreement. You are also encouraged to review the School Performance Fact Sheet, which must be provided to you prior to signing an enrollment agreement.

### **COMPLAINTS**

Students or any member of the public may file a complaint about this institution with the Bureau for Private Postsecondary Education by calling (888) 370-7589, or by completing a complaint form, which can be obtained on the bureau's Internet Web site at [www.bppe.ca.gov](http://www.bppe.ca.gov).

### **ADDITIONAL QUESTIONS**

Any additional questions and/or concerns may be addressed by contacting the school at 355 W. San Fernando Street, San Jose, CA 95113, or by calling (888) 488-4968.

Any questions a student may have regarding this catalog that have not been satisfactorily answered by the institution may be directed to the Bureau for Private Postsecondary Education at:

Physical Address: 2535 Capitol Oaks Drive, Suite 400, Sacramento, CA 95833

Mailing Address: P.O. Box 980818, West Sacramento, CA 95798

Website: [www.bppe.ca.gov](http://www.bppe.ca.gov)

Phone Number: (916) 431-6959

Toll Free: (888) 370-7589

Fax Number: (916) 263-1897

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## A MESSAGE FROM THE FOUNDER



Today, interdependency among nations is a working reality. Global developments in communications and technology mark the dynamic, changing nature of socio-economic and political relations among nations. International cooperation is now a prerequisite of any large-scale business operation, and absolutely necessary to maintain competitiveness and survivability. Individuals educated to think and work with an international consciousness are best equipped to lead in our new global neighborhood.

We should have a greater understanding of this new global network. It is in the spirit of global vision combined with the recognition that modern technology is the bonding power among nations. Hence, I present to you a model for the future of international education. Combining this cooperative vision with the latest research in science, technology and management, International Technological University (ITU) will continue to make major contributions to the fields of development, environmental protection and international cooperation.

The location of ITU is unique. The state of California combines the richest resources with the most congenial conditions available in the United States. Silicon Valley is the capital of the world's hi-tech industry. Stretching along the south shores of the San Francisco Bay, it is blessed with a superb climate, major universities, and a rich cultural and historical heritage. It is a hub of the American West, an international trade center, and a gateway to the Pacific and the world.

The United States created and is the present leader in the high-technology revolution. However, there is no guarantee that the U.S. will maintain dominance in this field. In recent years, Asia – and particularly China – has emerged as a major contributor in the modern world of high technology. If the U.S. is determined to maintain its present position, it must take the lead in harnessing the technological developments overseas as well as create a new hi-tech culture that fosters the exchange of technological development for the benefit of all citizens of our world. With this understanding, China will be a major partner and beneficiary of ITU's research, development, and production. Furthermore, in their efforts to market technology, Asian countries will find in ITU a vital resource for their continued development and modernization.

Professor Shu-Park Chan, Ph.D.  
Founder/President Emeritus

## **ABOUT ITU**

“To transform industry-linked technological education through innovative educational models and industry partnerships, worldwide.”

Established in 1994 by Dr. Shu-Park Chan, International Technological University (ITU) provides excellence in education for the future leaders of Silicon Valley corporations, leveraging the best of Silicon Valley’s technology and business models to advance developing economies throughout the world. ITU reflects and enhances Silicon Valley’s unique business culture with six industry-oriented departments that provide high-quality academic and practical training and offer unparalleled certificate, graduate, and doctorate programs in electrical engineering, digital arts, computer science, engineering management, and business administration. ITU degree programs aim to cultivate forward-thinking engineers, engineering managers, and business entrepreneurs and administrators with a deep understanding of professional ethics, intellectual property law, environmental protection, and other contemporary issues.

### **VISION**

To empower people and advance global prosperity through inventive, industry-linked Silicon Valley education.

### **MISSION**

ITU pioneers a modern, industry-focused educational model to deliver education globally. ITU’s educational pedagogy cultivates innovative thinking, ethical leadership, and entrepreneurial spirit through practical, industry relevant curriculum that reflects Silicon Valley’s culture. ITU closes the employment skills gap and empowers people to lead successful, enriching lives as meaningful contributors to the global community.



## **PURPOSE**

The purpose of ITU is to foster excellence in education for students particularly interested in the high-tech entrepreneurial field. All our programs have an applied nature, with an emphasis on specialty areas tailored to the market needs of Silicon Valley companies. Students are actively encouraged to affiliate or intern with relevant local industry firms from the very beginning of their academic studies as an integral part of ITU's academic pedagogy. As such, the hallmarks of an ITU education include:

- A special focus on practical engineering, business, biotech, and media arts research projects.
- Relevant internships integrated into academic programs from the beginning of a student's tenure.
- Multicultural awareness through the international exchange of scholars and students from locations around the globe.
- Systemically designed, competency-based courses that utilize innovative instructional methods.
- Cross-disciplinary curriculum that encourages students to look beyond their own fields and generate new possibilities.
- Programs that meet the high standards of both the ITU Advisory Board, which consists of prominent Silicon Valley industry leaders, and the Western Association of Schools and Colleges (WASC).

## **INSTITUTIONAL LEARNING OUTCOMES**

1. Demonstrate proficiency in critical thinking, quantitative methods, and verbal communication skills.
2. Employ an entrepreneurial perspective and innovative problem-solving skills to industry-relevant applications.
3. Display technical competency, research, and leadership ability in a chosen professional field.
4. Exhibit the ability to work effectively in team and group settings to advance professional objectives.
5. Understand and advocate for social responsibility and professional ethics from a perspective of global diversity and sustainability.

## **UNIVERSITY LOCATION**

International Technological University's Silicon Valley location provides access to one of the most well known hubs for entrepreneurial activity. The innovative atmosphere of Silicon Valley and the wider San Francisco Bay Area provides students with a unique environment from which to draw inspiration. The excitement, innovation and opportunity of the Silicon Valley is dispensed into the classrooms through our reputable faculty members, and class sessions. The energy of technology, entrepreneurship, and commerce is all around.

On March 28, 2011 ITU finalized its move to downtown San Jose. Some of the many leading firms within five miles of ITU include: HP, Apple, INTEL, Microsoft, Yahoo! Google, AMD, ATMEL, Juniper Networks, Symantec, Cypress Semiconductor, SUN, NASA, Cisco, Applied Materials, Silicon Graphics, Adobe Systems, Altera, Adaptec, Cadence, Electronic Arts, Oak Technology, Brocade, Radius, Nvidia, Synopsis and IBM.

San Francisco, Marin County, Berkeley, Oakland, and the Santa Cruz beaches are all an hour away by bus, train, or car. The Monterey Peninsula, Carmel and the famous Napa Valley wine country are all less than two hours away. San Jose International Airport is about five miles from campus.

University Address:  
355 W. San Fernando St  
San Jose, California 95113  
Tel: (888) 488-4968  
Fax:(408) 331-1026

## MAP

Below is a satellite photo of ITU's campus provided by Google Maps®.



Below is a map of ITU's campus with surrounding streets provided by Google Maps®.



## **ADMISSIONS**

It is advised that applicants submit all required materials no later than a month prior to the start of desired trimester. Applicants can send necessary documents to the following address:

Admissions Office  
International Technological University  
355 W. San Fernando St  
San Jose, CA 95113  
Academic Scheduling

### **TRIMESTER ADMISSIONS**

Applicants may apply for admissions into any of the three Trimester Terms each year.

#### **ENGLISH PROFICIENCY REQUIRED**

The ability to communicate effectively in English – to read, write and speak the language fluently – is vital to your success as a university student. Demonstrated English proficiency at the point of admission is required as all instruction will be in English.

### **GENERAL APPLICATION REQUIREMENTS**

All ITU Applications must include:

- Online Application (includes \$80 Application Fee).
- Official Undergraduate Transcript: must be issued directly from your undergraduate institution, listing courses taken and grades received, with a minimum cumulative GPA of 2.75.
- Copy of Bachelor's Degree Diploma
- Statement of Purpose Essay (500-750 words): please describe why you are interested in your intended program of study, and how you hope to use this education to achieve your future goals.  
*Submit the document in pdf format at [admissions@itu.edu](mailto:admissions@itu.edu). In the subject line include [Statement of Purpose Essay - Your Name]*
- Resume Demonstrating Relevant Work Experience: required for MBA. Optional for other programs.  
*Submit the document in pdf format at [admissions@itu.edu](mailto:admissions@itu.edu). In the subject line include [Resume - Your Name]*
- Official Transcripts from Other Previous Institutions: optional. Additional transcripts may be submitted to demonstrate interest and/or competence in the proposed field of study. Transcripts must be issued directly from the institution, listing courses taken and grades received.
- GRE or GMAT scores: recommended. Scores must be sent directly from the testing center.
- Letter of Recommendation: optional.

## ADDITIONAL REQUIREMENTS FOR INTERNATIONAL APPLICANTS

International applicants who have completed their post-secondary education from an institution outside the U.S. must hold a degree from a university recognized by their Ministry of Education as a degree-granting institution.

- WES Basic Course-by-Course (with GPA & course-levels): all foreign transcripts must be submitted to World Education Services (WES) for a WES Basic Course-by-Course (with GPA & course-levels) evaluation.  
*Please note that it takes WES at least 7 business days after receipt of your documents to process and send the evaluation to ITU.*
- TOEFL or IELTS score report required for non-native English speakers. Reports must be sent directly from the testing center.

\*\* All documents submitted for admission become property of the University and will not be returned.

## DOMESTIC STUDENTS APPLICATION CHECKLIST

Domestic Students refers to legal US Citizen and US Permanent Resident (Green Card Holder). The General Admissions Requirements are mandatory for all applicants, while additional materials are dependent on individual student status. Send all documents to the following address:

Admissions Office  
International Technological University  
355 W. San Fernando St  
San Jose, CA 95113

1. Submit Online Application and \$80 Application Fee.
2. Submit Official Transcripts for proof of Undergraduate Degree.  
*Copies OK, officials preferred.*
3. Submit a copy of your Undergraduate Diploma.
4. If you are a Green Card holder, submit a copy.

## INTERNATIONAL STUDENTS APPLICATION CHECKLIST

International Students refers to students needing F1 status to attend ITU. The General Admissions Requirements are mandatory for all applicants, while additional materials are dependent on individual student status. Send all documents to the following address:

Admissions Office  
International Technological University  
355 W. San Fernando St  
San Jose, CA 95113

1. Submit Online Application and \$80 Application Fee.
2. Official Transcripts and a copy of your Undergraduate Diploma or Provisional Certificate.  
Copies OK, officials preferred. Transcripts must be translated into English.

3. Submit a copy of the first and last page of your Passport, your Visa and I-94.
4. TOEFL or IELTS Scores.  
Requirements: minimum of iBT 61/ CBT 173 for TOEFL or minimum of 6.0 for IELTS. For policy on English Proficiency and information on Professional Communications courses, please visit the Language Development Program page.
5. Original Bank Statement.  
Original copy of bank statement showing a minimum of \$17,500. Applicants must have proof of an additional \$8,000 per dependent. For example, an applicant with an infant and a dependent spouse must show a total of \$33,500, having a total of \$8,000 per dependent. Bank statements must come directly from the bank, and must include an official stamp and signature from your banking institution. Any documents printed from the internet will be rejected.
6. Notarized Letter of Affidavit. Fill out and submit a Letter of Affidavit if you are being sponsored. If you are a student being sponsored by a company/resident within the US, then your sponsor is responsible for filling out an I-134 Form.
7. For Transfer Students, if currently on OPT, please provide a copy of your EAD (Employment Authorization Document) card.

## FINANCIAL INFORMATION

Tuition for our Master's Programs is \$500 per credit hour. All of our Master's Programs are 36 credit hours.

The following sample tuition and fees schedule is for all students (both international and domestic):

	<b>SPRING TRIMESTER</b>	<b>SUMMER TRIMESTER</b>	<b>FALL TRIMESTER</b>	<b>ACADEMIC YEAR</b>
Tuition <sup>1</sup>	\$4,500	\$4,500	\$4,500	\$13,500
Registration Fee <sup>2, 3</sup>	\$50	\$50	\$50	\$150
Student Union Fee	\$15	\$15	\$15	\$45
Technology Fee <sup>3</sup>	\$200	\$200	\$200	\$600
<b>TOTAL</b>	<b>\$4,765</b>	<b>\$4,765</b>	<b>\$4,765</b>	<b>\$14,295</b>

<sup>1</sup> Based on full-time registration of nine (9) credit hours.

<sup>2</sup> Registration Fee is \$50 per trimester. Late Registration Fee is \$100 (applies to students who register for classes during the Late Registration Period).

<sup>3</sup> Technology Fee and the Registration Fee are non-refundable once students register for classes.

Please refer to <http://itu.edu/index.php/admissions/student-resources/tuition-and-fees/> for other applicable fees.

The following estimated tuition and fees table is for the entire educational program:

	<b>FEES PER TRIMESTER</b>	<b>TOTAL NUMBER OF CREDIT HOURS/TOTAL NUMBER OF TRIMESTERS TO COMPLETE THE EDUCATIONAL PROGRAM</b>	<b>TOTAL CHARGES DUE FOR THE ENTIRE EDUCATIONAL PROGRAM</b>
Tuition	\$500 per Credit Hour	36 Credit Hours	\$18,000
Registration Fee <sup>2</sup>	\$50	4 Trimesters	\$200
Student Union Fee	\$15	4 Trimesters	\$60
Technology Fee	\$200	4 Trimesters	\$800
Enrollment Fee <sup>4</sup>			\$200
Graduation Fee <sup>4</sup>			\$200
<b>TOTAL</b>			<b>\$19,460</b>

<sup>4</sup> Non-Refundable Fee



The following table lists Other Fees:

OTHER FEES (NON-REFUNDABLE)	AMOUNT
Application Fee	\$80
Bounced Check Penalty Fee (per check)	\$50
Course Examination Under Challenge Test Option (per course)	\$100
Defer I-20 Fee	\$30
Ground Shipping Fee	\$25
Installment Plan Administration Fee (per trimester)	\$80
Insurance Premium ( <b>Effective Spring 2015</b> )	TBD
International Postage Fee	Additional charges will apply
Lab Supplies/Kit (Depends on Class Requirements)	\$50 - \$200
Late Payment Fee	\$20
Overnight Postage Fee	\$50
Payment Switch/Check Holding Fee	\$50
Petition For Incomplete Grade Fee (per course)	\$50
Student ID Replacement Fee	\$10
Student Tuition Recovery Fund <sup>5</sup>	\$0.50 per \$1,000
Transcript Fee (per copy)	\$15 for first copy \$10 each for copies 2-5 \$5 each for copies 6-10
USCIS Notary Fee	\$20

<sup>5</sup> The Student Tuition Recovery Fund (STRF) assessment rate is \$.50 per \$1,000 of institutional charges for the entire program.

## ACCEPTED FORMS OF PAYMENTS

The following are acceptable forms of payment:

- Cash
  - Cash payments are only accepted in person at the Accounting Office.
  - DO NOT send cash by mail.
- eCheck Payment
  - An eCheck is a one-time authorization to automatically debit your savings or checking account.
  - You will need to provide your United States checking/savings account number and the ABA (routing and transit) number.
  - Your ATM/Debit card number is NOT your checking or savings account number.
  - Double check your account and ABA number. Bounced eChecks (for any reason) are subjected to a bounced check penalty fee of \$50 each.
- Credit/Debit Cards
  - Students must use their own credit card for payment, except: students may pay using their spouses' or immediate family members' credit cards. However, the spouse or immediate family member must be present to sign the credit card authorization if payment is made in person at the Accounting Office.
  - Only VISA, MasterCard, and Discover are accepted.
  - There are no extra fees for using credit cards as payment method.
- Personal Checks
  - Checks are made payable to "ITU".
  - Check payments can be mailed to the Accounting Office.
  - Checks must be dated the day the payment is made. Checks are deposited the business day following the payment date.
  - Students who have a bounced check due to non-sufficient funds will no longer be eligible to make any payments by check for their remaining tenure at ITU.
  - A bounced check fee of \$50 will apply to each bounced check due to non-sufficient funds.
  - In the case of non-sufficient funds, the entire balance on a student's account must be paid in full by cash, credit cards, cashier's checks, traveler's checks, money orders, or wire transfers.
- Cashier's Checks, Money Order, Traveler's Checks, Demand Draft
  - Checks should be made payable to "ITU".
  - Payments are accepted by mail to the Accounting Office, with the exception of Traveler's Checks.
  - For Traveler's Checks, the student must submit payment in person, due to the need to endorse each check at the time of payment.
- Wire Transfers
  - For wire transfer instructions, please contact the Accounting Department in-person, or e-mail your request to Leo Fung at [fleo@itu.edu](mailto:fleo@itu.edu).
  - Wire transfer information will be sent to you by the Accounting Office once student status is verified.
  - After you have sent your wire transfer, please send a copy of the wire transfer confirmation from your bank to Leo Fung at [fleo@itu.edu](mailto:fleo@itu.edu).
  - Your payment will be applied to your student account once payment is

received by the University.

NOTE: Refunds for international wire transfers (when applicable) will only be issued by wire transfer back to the originating account. No exceptions. Student's are responsible for any fees incurred for a wire transfer refund. Refunds by wire transfer may take up to 3 months due to the receiving banks' policies and practices.

#### Encumbrance of Registration and Records

Students who owe money to ITU will not be permitted to register and receive an official transcript of their credits or diplomas. Foreign students will not be entitled to receive certification for practical training until they pay off their balance.

## FINANCIAL OBLIGATIONS AND REFUNDS

### WITHDRAWAL AND REFUND POLICY

1. Students will be given a 100% refund if a class is cancelled by the University.
2. The student has the right to cancel the enrollment agreement and obtain a refund of charges paid through attendance at the first class session, or the seventh day after enrollment, whichever is later.
3. If students drop their class(es) or withdraws from the University after the first class session, amounts refund are calculate based upon the time students drop their class(es) or withdraw from the University. ITU's refund policy is as follows:

<b>ON-CAMPUS</b>	<b>WEEKDAY</b>	<b>WEEKEND</b>
<b>Date</b>	<b>Refund Percentage</b>	<b>Refund Percentage</b>
On the day of the 1st Class	100%	100%
On the day of the 2nd Class	85%	75%
On the day of the 4th Class	75%	No Refund
The day after the 4th Class	No Refund	No Refund

<b>ONLINE</b>	<b>SESSION I</b>	<b>SESSION II</b>
<b>Date</b>	<b>Refund Percentage</b>	<b>Refund Percentage</b>
On the 1st Day of Session	100%	100%
During the 1st Week of Session	85%	85%
After the 1st Week of Session	No Refund	No Refund

Cancellation may occur when the student initiates a ticket in Zendesk at:

<https://ituedu.zendesk.com/hc/en-us/requests/new>

Students have until midnight of the day of the class session to initiate a ticket in Zendesk.

Refund request forms can be found at: <http://itu.edu/index.php/admissions/student-resources/forms/>

A completed refund request form can be submitted to the Accounting Department by mail, hand delivery, e-mail or fax:

International Technological University  
355 W. San Fernando Street  
San Jose, CA 95113

Please refer to the ITU website for further reference to our refund policy.

If the student has received federal student financial aid funds, the student is entitled to refund of moneys not paid from federal student financial aid program funds.

## **FINANCIAL ASSISTANCE**

International Technological University does not participate in any federal and state financial aid programs. In order to ease the burden of a single lump sum tuition payment, the University offers the following payment option:

### **Installment Plan**

Students may defer tuition payments for each term by spreading the payments over three months. Students must apply for the installment plan at the time of registration. The cost of the installment plan for any term is \$80.00. The payment schedule is as follows:

- The first installment is due on the day of registration, and the amount must be equal to or greater than three (3) units of tuition in addition to all of the fees.
- The second installment is due one (1) month after the first day of class, and the amount must also be equal to or greater than three (3) units of tuition.
- The third installment is due two (2) months after the first day of class. Any remaining balance must be paid with this final installment.

Details of the installment plan can be found on ITU website:  
<http://itu.edu/index.php/financial-info/installment-plan-policy/>

## **SCHOLARSHIPS**

International Technological University offers scholarships to a select number of students every trimester. The application period is open the first two weeks of registration for each trimester. The scholarship awarded will be applied to the upcoming trimester's tuition. Students are encouraged to complete and submit their complete application via email to [ituscholarship@itu.edu](mailto:ituscholarship@itu.edu).

### **Dr. Shu-Park Chan Scholarship**

The Dr. Shu-Park Chan Scholarship provides merit-based financial assistance to outstanding, qualified students in ITU's academic programs. In addition, ITU encourages our students to contribute to the community, embrace innovation, and promote entrepreneurship. Scholarship applicants should demonstrate their accomplishment of these core values of ITU's mission by showing their leadership, achievement, and participation in class, school and community.

Recipients will be awarded a tuition waiver of up to 9 units per trimester.

Details of the Dr. Shu-Park Chan Scholarship can be found on ITU website:  
<http://itu.edu/index.php/financial-info/tuition-and-fees/scholarship/>

## **FINANCIAL AIDS AND LOANS**

If a student obtains a loan to pay for an educational program, the student will have the responsibility to repay the full amount of the loan plus interest, less the amount of any refund, and, if the student has received federal student financial aid funds, the student is entitled to a refund of the moneys not paid from federal student financial aid program funds.

## **NOTICE OF NO PENDING PETITIONS**

ITU does not have a pending petition in bankruptcy. ITU is not operating as a debtor in possession. ITU has not filed a petition within the preceding five years, nor has any petition in bankruptcy filed against it within the preceding five years that resulted in reorganization under Chapter 11 of the United States Bankruptcy Code (11 U.S.C. Sec. 1101 et seq.).

## **REGISTRATION INFORMATION**

### First-Time Students

#### Registration for New Students by Appointment Only

Upon Admittance to ITU an email is sent with a link to our Student Enrollment Agreement Form. Submitting this form starts the enrollment process. Once you have completed the form, your academic advisor will contact you to schedule an advising appointment.

Students register on a first-come, first-serve basis so applying early and registering early to ensure top pick of courses is highly recommended.

### Continuing Students

Continuing Students can register for class online through MyITU.

Online Registration – My.ITU.edu

#### LOGGING IN

1. Go to <https://my.itu.edu>, or from ITU's main website click on "MyITU" in the topmost menu on every page.
2. On the top right corner, type in your login and password to login. If you have not received your login information within 48 hours after your registration with an Advisor, please contact: [support@ituedu.zendesk.com](mailto:support@ituedu.zendesk.com).

#### Registering for classes

1. After Logging In, Click on the Student Records link in the top navigation
2. Click the "Course Registration" link
3. When you are registering/adding classes the first-time, you will see a link at the bottom of the page to "Online Registering Form". You must read, click "I Agree" and submit this form in-order to proceed with registration process.
4. Click the "Course Search" link

5. The "Course Search" page opens. Do not select any search criteria. Leave all the options as is and click the "Search" button.
6. This will return a list of courses that you can add/register.
7. Please check the checkbox for the courses that you want to add.
8. Scroll down and you will see the button "Add Courses" -> Click it to add your classes.
9. After you have added your courses, go back to the "Schedule of Classes". You will see all your courses on this page
10. Finally, follow the Paying for classes instructions below.

#### Paying for classes

1. Click on My Account Info at the bottom of the page.
2. Follow the directions to make a payment:
  - To pay by Debit/Credit Card, you can make the payment online or process your payment within 24 hours by mail or in person. If using the online payment method, please make sure you have read the Registration Payment Policy and Online Payment Policy.
  - To pay by cash, money order, check or other, your payment must be received within 24 hours by mail or in person.

## **STUDENT CODE OF CONDUCT**

### Article I: Terminology

1. The term "University" means ITU University.
2. The term "student" includes all persons taking courses, receiving services from University, and pursuing graduate studies at University.
3. The term "faculty member" means any person hired by or contracted with the University to conduct instructional activities.
4. The term "ITU staff" means any person employed by the University, with the exception of student employees.
5. The term "member of the ITU community" includes students, faculty members or ITU staff, and or any other individual associated with the University. The Chief Student Affairs Administrator or designee shall determine a person's status in a particular situation.
6. The term "ITU Premises" includes all land, building, facilities and other property in the possession of or owned, used, or controlled by the University (including parking lots, adjacent streets and sidewalks)
7. The term "judicial body" means any person or persons authorized by the Chief Student Affairs Administrator or designee to determine whether a student has violated the Student Code of Conduct and to recommend imposition of sanctions.
8. The term "judicial Advisor" means an ITU official authorized on a case-by-case basis by the Chief Student Affairs Administrator or designee to impose sanctions upon students found to have violated the Student Code of Conduct. The Chief Student Affairs Administrator or designee may authorize a judicial advisor to serve simultaneously as a judicial advisor, and as the sole member or one of the members of the judicial body. Nothing shall prevent the Chief Student Affairs Administrator or designee from authorizing the same judicial advisor to impose sanctions in all cases.
9. The term "shall" is used in the imperative sense.
10. The term "may" is used in the permissive sense.
11. The "Chief Student Affairs Administrator or designee" is the person designated by the CEO of ITU University to be responsible for administration of the Student Code of Conduct.
12. The term "policy" is defined as the written regulations of the University.
13. The term "organization" means any number of persons who have complied with the formal requirements for University recognition / registration.

### Article II: Judicial Authority

1. The judicial advisor shall determine the composition of judicial bodies and determine which judicial body shall be authorized to hear each case.
2. The judicial advisor shall develop procedures for administration of the judicial program and for the conduct of hearings, which are not inconsistent with provisions of the Student Code of Conduct.
3. Decisions made by a judicial body and / or judicial advisor shall be final. Pending the normal appeal process. (Unless otherwise is stated).

### Article III: Proscribed Conduct

#### Jurisdiction of the University

The Code of Conduct applies to student behavior that affects the ITU community, irrespective of where that conduct may occur. Discipline may extend to off-campus activities and locations, when they adversely affect the ITU community and / or pursuit of its objectives.

## Conduct – Rules and Regulations

Any student found to have committed the following misconduct may be subject to disciplinary sanctions outlined in Article IV.

1. Acts of dishonesty, including but not limited to the following:
  - a. Furnishing false information to any University official, faculty member or office.
  - b. Forgery, alteration or misuse of any University document, record or instrument of identification.
  - c. Computer piracy, including duplication of computer software, copyright infringement and unauthorized computer entry.
2. Disruption or obstruction of teaching, research, administration, disciplinary proceedings and other University activities, including its public service functions on or off campus, or other authorized non-University activities, when the act occurs on ITU premises.
3. Physical abuse, verbal abuse, threats, intimidation, and harassment including, but not limited to, sexual harassment, coercion and/or other conduct that threatens or endangers the health or safety of any person, either on ITU premises or at any University-sponsored activity.
4. Attempted or actual theft of and/or damage to property of the University or property of a member of the ITU community or other personal or public property.
5. ITU specifically prohibits any organization, chartered or otherwise, officially or in fact, from participating in the activity of “hazing”.
6. Gambling on ITU premises, at University functions or through the use of University equipment.
7. Failure to comply with directions of University officials or law enforcement officers acting in performance of their duties and/or failure to identify oneself to these persons when requested to do so.
8. Unauthorized possession, duplication or use of keys to any part of ITU premises, or unauthorized entry to or use of ITU premises.
9. Violation of federal, state or local law on ITU premises or at University-sponsored or University-supervised activities, or other violation of federal, state or local law which has an adverse effect on the ITU community.
10. Violation of published University policies, rules or regulations.
11. Use, possession or distribution of narcotic or other controlled substances, except as expressly permitted by law, or being under the influence of such substances.
12. Illegal or unauthorized possession of firearms, explosives, other weapons or dangerous chemicals on ITU premises or at any University-sponsored activity.
13. Participating in a campus demonstration that disrupts normal operation of the University.
14. Conduct that is disorderly, lewd or indecent; breach of peace; or aiding, abetting or procuring another person to breach the peace on ITU premises or at functions sponsored by the University.
15. Theft or other abuse of computer time, including but not limited to:
  - a. Unauthorized entry into a file, to use, read or change contents, or for any other purpose.
  - b. Unauthorized transfer of a file.
  - c. Unauthorized use of another individual’s identification and password.
16. Abuse of the judicial or disciplinary system, including, but not limited to:
  - a. Failure to appear before a judicial body or University official.



- b. Falsification, distortion or misrepresentation of information before a judicial body.
- c. Disruption or interference with orderly conduct of a judicial proceeding.
- d. Attempting to influence the impartiality of a member of a judicial body prior to, and / or during the course of the judicial proceeding.
- e. Harassment (verbal or physical) and/or intimidation of a member of a judicial body prior to, during and/or after a judicial proceeding.
- f. Failure to comply with sanction(s) imposed under the Student Code of Conduct.

#### Article IV: Judicial Policies

##### Charges and Hearings

1. Any member of the ITU community may file charges against any student for misconduct. Charges shall be prepared in writing and submitted as soon as possible after the event takes place.
2. The judicial advisor may conduct an investigation to determine if charges have merit and/or if they can be resolved by mutual consent of parties involved on a basis acceptable to the judicial advisor (such as mediation). Such disposition shall be final, and there shall be no subsequent proceedings.
3. All charges shall be presented to the accused students in written form. Chief Student Affairs Administrator or designee shall decide on how they want to follow up with the case. This could go up to an actual hearing.
4. It is up to the Chief Student Affairs Administrator or designee to decide on everything related to the charges brought up against the accused student.

## SANCTIONS

There shall be two major classifications of sanctions that may be imposed for violations of this procedure: Academic and Administrative. Academic sanctions will be defined as those actions related to the course work and grades which are the province of the instructor. Administrative sanctions are concerned with a student's status on campus. The imposition of one variety of sanction will not preclude the additional imposition of the other.

1. The sanctions listed below may be imposed upon any student found to have violated the Student Code of Conduct.
  - a. Warning – A verbal or written notice to the student that the student is in violation of or has violated University regulations.
  - b. Probation – A written reprimand for violation of specific regulations. Probation is for a designated period of time and includes the probability of more severe disciplinary sanctions if the student is found to be violating any University regulation(s) during the probationary period.
  - c. Fines – Fines may be imposed, as determined or approved by the university.
  - d. Restitution – Compensation for loss, damage or injury. This may take the form of appropriate service and/or monetary or material replacement.
  - e. Discretionary Sanctions – Work assignments, service to the University or other related discretionary assignments.
  - f. ITU Suspension – Separation of the student from the University for a definite period of time, after which the student is eligible to return. Conditions for readmission may be specified.

- g. University Expulsion – Permanent separation of the student from the University.
2. More than one sanction listed above may be imposed for a single violation.
3. Other than University suspension and University Expulsion, disciplinary sanctions shall not be made part of the student's permanent academic record, but shall become part of the student's disciplinary record.

### **ACADEMIC SANCTIONS**

Faculty members are responsible for determining the type of academic sanction and reporting the incident. Usually a form of "grade modification" will be employed. Before sanctions can be employed, the faculty member must have verified the instances of academic dishonesty by personal observation and/or documentation. In all cases the violation should be reported to The Chief Student Affairs Administrator. Sanctions that may be imposed by the faculty member include but are not limited to those listed below.

A student may be:

1. Reprimanded orally.
2. Lowered grade on assignment, exam, paper, or project involved.
3. Failed in the evaluation instrument (assignment, exam, paper, or project).
4. Reduced in course grade, including possible failure of the course. NOTE: A grade of "F" earned in the course as a result of sanctions for academic dishonesty is final and shall be placed on the transcript.
5. Referred for administrative sanctions. A faculty member may choose to refer a student to The Chief Student Affairs Administrator for disciplinary action in addition to the academic action the faculty member has taken or in lieu of any academic sanction.
6. If the incident happened around final time, then the result is an immediate 'F' in the course followed by other Administrative Sanctions, including NP in other courses taken in the same semester, up to expulsion.

### **ADMINISTRATIVE SANCTIONS**

Cheating or plagiarism in connection with an academic program at a campus may warrant expulsion, suspension, probation, or a lesser sanction. Administrative action involving academic dishonesty at ITU is the responsibility of the The Chief Student Affairs Administrator according to the Standards of Student Code of Conduct.

The Chief Student Affairs Administrator will respond to:

1. Referrals from the faculty;
2. Flagrant violations of academic standards; and
3. Repeat violations as brought to attention by the faculty or through the centralized reports filed with the The Chief Student Affairs Administrator. Repeat violators of the academic dishonesty procedure will face the following sanctions:
  - a. Students found to have violated the academic dishonesty procedure in two separate incidents may be placed on academic probation, and potentially suspended or expelled from the University;
  - b. The University will initiate expulsion proceedings for students found to have violated the academic dishonesty procedure in three or more

separate incidents. Faculty members will be notified by the The Chief Student Affairs Administrator when action has been taken.

### **INTERIM SUSPENSION**

In certain circumstance, the Chief Student Affairs Administrator, or a designee, may impose an immediate University suspension.

1. Interim suspension may be imposed:
  - a. To ensure the safety and well-being of member of the ITU community or preservation of University property;
  - b. To ensure the student's own physical or emotional safety and well-being;  
or
  - c. To ensure safety of others if the student poses a definite threat of disruption of or interference with the normal operation of the university, all at the discretion of the Chief Student Affairs Advisor or designee.
2. During the interim suspension, student shall be denied access to ITU premises and / or all other University activities or privileges for which the student might otherwise be eligible, as the Chief Student Affairs Administrator or designee may determine to be appropriate.

### **APPEALS**

The accused student may appeal a sanction imposed. The request must be in writing and submitted within the timeframe outlined in the sanction notice. The Chief Student Affairs Administrator or designee may decide to uphold an appeal. Based on the nature of the case, he/she may decide to deny the appeal process.

### **ACADEMIC GRIEVANCE PRECEDURES**

An academic grievance procedure defines an administrative process through which students or employees may seek resolution of complaints or grievances arising from a decision made about them.

#### **INFORMAL PROCEDURE**

A student or employee who has a complaint or request is expected to first resolve it informally. The effort must include discussions with the specific faculty member, teaching assistant or staff member involved. A demonstrated lack of good faith by any party attempting to resolve complaints informally may be considered with all other factors to reach an ultimate decision on the merits of any grievance.

#### **FORMAL PROCEDURE**

If all reasonable informal efforts to resolve a complaint fail, a student or employee may formalize it as a grievance. A formal grievance must be filed within 45 days from the time

the student believes, or reasonably should have known, that an occurrence has effected his/her status. This period of 45 days includes all informal efforts to resolve the grievance. The student must submit the grievance in writing to the Administration Office. A proper administrator will conduct an investigation of the grievance and may interview the student for further clarification. After the investigation, the administrator may either grant or deny the redress sought or provide remedies. The decision will be issued no later than 14 days following receipt of the written grievance. If the administrator does not grant redress satisfactory to the student, the student has 14 days to appeal the decision to the University President upon written receipt of the appeal. The President has 14 days to notify the student of his decision, either grant or deny the redress sought or provide other remedies. The President's decision is final. To launch a complain via the Bureau of Private Postsecondary Education (BPPE) please go to the BPPE website.

### **ACADEMIC INTERGRITY**

ITU is dedicated to learning and research, and hence is committed to truth and accuracy. Integrity and intellectual honesty in scholarship and scientific investigation are, therefore, of paramount importance. These standards require intellectual honesty in conducting research, writing of research results and relations with colleagues. Academic misconduct includes cheating, plagiarism, falsification of data, etc.

### **ACADEMIC DISHONESTY POLICY**

ITU is committed to creating an environment where student achievement is championed and celebrated. Because the university values academic integrity as an essential component of academic excellence, students are expected to be truthful and ethical in their academic work. Commitment to academic integrity is the responsibility of every student and faculty member at ITU.

Faculty and students come from a variety of backgrounds and cultures, giving rise to different understandings of moral and ethical behavior. Faculty should clearly state well-defined standards to reduce uncertainty and clarify expectations.

Academic dishonesty is defined as: an act of deception in which a student claims credit for the work or effort of another person or uses unauthorized materials or fabricated information in any academic work. Academic dishonesty is a violation of the ITU 'Student Code of Conduct' and will not be tolerated. Acts of academic dishonesty include, but are not limited to, the following:

### **CHEATING**

Unauthorized copying or collaboration on a test or assignment, or the use or attempted use of unauthorized materials;

### **TAMPERING**

Altering or interfering with evaluation instruments and documents;

## **FABRICATION**

Falsifying experimental data or results, inventing research or laboratory data or results for work not done, or falsely claiming sources not used; fabricating or falsifying documentation to try to change a course grade;

## **PLAGIARISM**

Representing someone else's words, ideas, artistry, or data as one's own, including copying another person's work (including published and unpublished material, and material from the Internet) without appropriate referencing, presenting someone's else's opinions and theories as one's own, or working jointly on a project, then submitting it as one's own;

## **ASSISTING**

Assisting another student in an act of academic dishonesty, such as taking a test or doing an assignment for someone else, changing someone's grades or academic records, or inappropriately disturbing exams to other students.

## **ACADEMIC POLICIES**

### **ACADEMIC PROBATION POLICY**

A student whose GPA in any term of the academic year is below 3.00 is placed on academic probation. If the GPA the following term and the cumulative GPA are 3.00 or better, the student is removed from probation. Students placed on academic probation are required to meet with an academic advisor in the Academic Advising and Academic Success Center to develop a plan for academic success. (Students may be on 3 consecutive academic probation before academic expulsion).

What it means for international students: International students are required to meet with an international student advisor and/or Academic Counselor to discuss the negative effect this may have on a student's immigration status. If an international student is on academic probation or suspension, he/she is no longer eligible to extend the program end date on their I-20. If additional time is needed to complete the program, the student will be required to apply for immigration reinstatement (the original immigration record will not be extended and will be terminated) or exit the United States and reapply for a new I-20 and visa to resume studies.

Students that continue to do poorly, should plan to have a back up plan in case he or she is suspended from ITU.

### **ACADEMIC SUSPENSION / EXPULSION**

A probationary student whose GPA for any term of the academic year is below 3.00 will be suspended and will not be permitted to register again without the consent of the registrar. The procedure for applying for readmission begins in the Registrar's Office. To be readmitted, suspended students are required to enroll in and successfully complete the university's learning seminar.

What it means for international students: International students are required to meet with an international student advisor to discuss what options are available for suspended international students. An academically suspended student will not be eligible to register at ITU.

International students that are academically suspended will need to do one of the following within one week of grades coming out:

- Students may apply for a "Petition for Reinstatement" in the Registrar's office. Please contact the Registrar's office or see the more detailed information below.
- Students may transfer to a different school. The student must first get admitted to a different school or program and show the office the acceptance letter and financial guarantee if applicable for the new school. The SEVIS record will remain active as long as the transfer is done in a timely manner. Please follow the transfer out procedure.
- Students may withdraw from ITU and exit the U.S. within 14 days. The student's immigration record will be terminated.
- Student's who take no action will have their SEVIS record terminated and will be

out of immigration status. Students who remain in the U.S. will be here illegally.

### **PETITION FOR REINSTATEMENT SUSPENDED STUDENTS**

The petition for reinstatement form can be found in the Registrar's office. The petition has you explain your circumstances as to why you are not making academic progress such as, but not limited to, an injury or illness to you or death of a relative, or extreme difficulties in understanding English or the American university system. You may be required to provide appropriate documentation (e.g. note from doctor or professor). You will also need to explain the steps you will take to prevent this problem from reoccurring and steps you will take to improve your grades.

### **ACADEMIC ADVISING**

Each student is assigned an academic advisor, based on their department. Advisors assist in planning a program of study that fits the needs of the student and satisfies program requirements. New students must meet with their academic advisor before the start of their first trimester to register for classes.

### **ADDING AND DROPPING COURSES**

Students may not add a course after the second week of instruction in the trimester scheduling system unless otherwise determined by the Academic Committee. The deadline for dropping a course is no later than the second week of the trimester. Dropping a course after the second week of instruction will result in a grade of W (W=Withdraw). Dropping a course after the halfway point of the term (after the 4th week of an Online Session or after the 8th week of an on-campus course) will result in a grade of F (F=Fail).

Tuition refund will be issued for a dropped course according to the fee schedule stated in the Financial Obligations and Refunds section. Holders of fellowships, assistantships, tuition and fee waivers, and student visas must maintain the required number of credit hours or risk loss of their tuition and fee waiver for the term. Students who lose their waivers will be billed the full cost of tuition and fees.

### **AUDITING CLASSES**

A student may audit almost any course offered by ITU. Auditing a class means that the student registers for a class as an "Auditor". The student is not required to complete course assignments, though he or she may do so with the permission of the instructor. The student does not receive a letter grade for the course. Instead a grade of "AUD" is entered in the student's record.

Classes taken for "Audit" do not apply toward any academic degree, and do not count as part of a student's full- or part-time course-load. The tuition for an audited course is the same as that for a credit course.

## **REGISTERING TO AUDIT A CLASS**

Duration: A student may register to audit a course up to one week after the last day of late registration

### **Auditing limitations**

- Registration is limited to classes with space available
- Professor's permission
- Tuition and fees are the same as for credit

## **CHANGE OF MAJOR**

Students who wish to change their majors (or add concentration), must submit the request before they complete 19 units at ITU. Previous credits may or may not be considered towards new major requirements.

## **CONFIDENTIALITY OF STUDENT RECORDS**

ITU fully complies with the Faculty Educational Rights and Privacy Act of 1974. This means ITU may release directory information, including name, address, phone number, and major field of study to any person on request unless a student requests in writing that directory information be kept confidential. ITU will safely keep student records for an indefinite period. Law from inspection excludes certain records: those created or maintained by a physician, psychiatrist, or psychologist in connection with student treatment or counseling. Students may inspect their records in the Office of Admissions and Records and direct academic record complaints to the Registrar.

## **CLASS ATTENDANCE AND PARTICIPATION POLICY**

Effective 05/2014

All on-campus classes are held at ITU, 355 W. San Fernando Street, San Jose, CA 95113. Class attendance is mandatory for all on-campus courses at ITU. Showing up for each class session is the minimum requirement for students to learn and be successful in their studies. As a graduate institution, ITU requires all of its students to attend, fully participate, and be engaged in all of the classes for which they are enrolled each term.

It is the responsibility of the individual faculty member to monitor and record student engagement and participation for their class(es), both on campus and online. This can be done in a number of ways, such as in-class quizzes, participation points during in-class discussions, roll call, etc. How attendance is measured may vary from class to class. To encourage student engagement, faculty are encouraged to use classroom participation as a part of their grading.



## CLASS SIZE LIMIT

Classes are limited to 48 students per weekday course, and 75 students per weekend course.

### Continuation and Probation Rules

Students are considered to be in good standing if they:

- Meet all admissions requirements
- Are not on academic probation
- Are making satisfactory progress towards degree requirements – including a project or thesis if required

## CREDIT HOUR POLICY

Adopted 08/2012

Except as provided in Federal Regulation 34 CFR 668.8(k) and (l), a credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than:

(1) One hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time; or

(2) At least an equivalent amount of work as required in paragraph (1) of this definition for other academic activities as established by the institution, including laboratory work, internships, practice, studio work, and other academic work leading to the award of credit hours.

Besides:

(3) One credit hour is assigned to a part time CPT in which the student needs to get between 10 to 20 hours training a week for at least 15 weeks; three credit hours are assigned to a full time CPT in which the student takes 21 to 40 hours training per week for at least 15 weeks. In addition, given the nature of our school, many of our engineering classes meet in a laboratory of the subject matter these classes meet in accordance with the time requirements of the above policy. In addition to the class meeting time, which is largely lecture/didactic and discussion classes, students are required to complete additional lab work/assignments outside of their class hours.

*Addendum to the Credit Hour Policy (Approved 01/15/2014)*

With regard to ITU's online course offerings, ITU has adopted the United States Department of Education requirements for "courses offered entirely online and without any required face-to-face class meetings."

A week of instructional time is any given seven-day period in which at least one session of regularly scheduled instruction or examination occurs. Students are expected to be

academically engaged through means which could include, but are not limited to, submitting an academic assignment; taking an exam, an interactive tutorial, or computer-assisted instruction; attending a virtual study group assigned by the instructor; contributing to an academic online discussion; and engaging in contact with the faculty member and class peers related to the academic subject of the course. Departments must document through scheduling of classes or syllabi that they are meeting the minimum semester credit hour requirement for the credit awarded. (U.S. DOE, CH-A5, 2.22.2013)

The course syllabus communicates an expectation to students that the student will be required to participate as a part of the course and indicates the expected minimum time that students will need to devote to the course. The total expected time should be a minimum of 45 hours per semester for each unit of class.

The credit hour requirement for a course may be achieved through working online, attending online discussions, watching video presentations, taking quizzes, participating in group activities, etc. A student's participation may be randomly monitored for quality control by the instructor for that course, faculty mentors assigned to courses, or the program chair.

## **CREDIT MEASUREMENTS**

Academic credits are measured in terms of credit hours. This is a listing of how Academic Credits are measured:

1 credit hour = 1 trimester term hour

1 trimester credit hour = 15 hours of classroom lectures/30 laboratory hours/45 practicum hours

The student should enroll in 9 credits to maintain the F1 status for all trimesters, unless he/she is in Semester Break, Last Trimester, or Reduced Course Load.

International Students: For purposes of enrollment certification to the Bureau of Citizenship and Immigration Services in the U.S. Department of Homeland Security, ITU considers a foreign student to be full-time if s/he registers full-time for the Fall, Spring and/or Summer Trimesters.

## **FINAL EXAM POLICY**

All classes conducted at ITU main campus have a mandatory in-class final examination or presentation.

## **GRADE CHANGE POLICY**

After a grade has been assigned by the instructor, any change of the grade has to follow the Grade Change Policy below:

A) The application for a grade change must be received by the instructor not later than the end of the trimester following the one in which the course was taken.

B) The assignment of the contested grade is due to a clerical error of the instructor, for example: wrong summation of points, or clerical oversight of any student work that is used in the grade computation.

Grade change requests that contest the instructor's judgment of the academic quality of the student's work or achievement are disallowed.

Grade change requests that are based on makeup work of any type performed after the trimester in which the course was taken are disallowed.

Grade change requests that are based solely on the student's desire to have a better grade are disallowed.

If the above conditions A) and B) are met and the instructor decides to change the grade, the request must be submitted to the department chair for final approval. After this approval the registrar will effect the grade change in the students records.

*Addendum:*

*If a student decides to take the same course again and achieves a better grade, the better grade will be entered in addition to the former grade in the student's record, but will not count as additional credit units toward the student's degree.*

## **GRADING SYSTEM**

The following grades are used:

A : 4.0 grade points per credit hour

A- : 3.7 grade points per credit hour

B+ : 3.3 grade points per credit hour

B : 3.0 grade points per credit hour

B- : 2.7 grade points per credit hour

C+ : 2.3 grade points per credit hour

C : 2.0 grade points per credit hour

C- : 1.7 grade points per credit hour

D+ : 1.3 grade points per credit hour

D : 1.0 grade points per credit hour

D- : 0.7 grade points per credit hour

F : 0(failure: not accepted as degree credit hour)

I : Incomplete. Used only for reasons beyond student's control. An "I" that is not removed on the student's record as an "I", with no credit earned, and is not computed in the GPA.

P/NP : (Pass/Not pass)-Used as an alternative grading option for students. Not available for required core courses. Passing mark earns grade points towards graduation, but is not calculated in the GPA. No grade points are earned for the NP mark, and the grade is not computed in the GPA.

AUD : Auditing. No grade points are earned and the grade is not computed in the GPA.

R : Repeated class

NR : Used by the office of Admissions and Records to indicate no grade was reported.

WF : Failed the course at the time of withdrawal. No grade points are earned and the grade is not computed in the GPA.

WP : Passed the course at the time of withdrawal. No grade points are earned and the

grade is not computed in the GPA.

Only courses in which a student has earned at least a grade of C- and P are counted towards the master's degree. All registered credit hours are counted as attempted credit hours, and all grades except I, P, NP, WP, WF, AUD and NR are used in GPA computation. A student must earn a cumulative 3.0 GPA to be eligible for the master's degree.

All courses require letter grades, except those specifically designated otherwise. For deficiency courses, a letter grade should be given, although not counted in the student's overall GPA. A grade of C- or better constitutes a passing grade for a deficiency course. All deficiency courses can be completed at any accredited institution.

### **INCOMPLETE GRADE POLICY**

Effective As of Fall 2011

Incomplete grade is student initiated.

1. The purpose of an 'incomplete' (I) grade is to give a student the chance of receiving at a later time a letter grade for a course for which the student has not finished all necessary work during the course time, or was prevented by special and unforeseeable circumstances from making proper progress.
  2. A student who fulfills the conditions of 1) is entitled to ask the instructor for a grade of 'incomplete' for the course. If the student so requests, the instructor can, but is not required to issue an I grade. Without such a request the instructor must not issue an I grade. (An I grade cannot be issued for Independent Study and for any class that has not been sufficiently attended by the student).
  3. The student makes the request by filling out the Incomplete Grade Request (Petition) form and submitting it to the instructor before the date when the grades for the course are due. The form must contain the names of student and instructor, the number and name of the course for which the I grade is requested, and the description of the work, that must be completed to receive a letter grade. The form must be dated and signed by student and instructor and is filed with the registrar.
  4. A student who receives an I grade for a course must complete and submit the missing work within the following trimester to the instructor of the course or the instructor's TA.
  5. If the missing work is submitted in time, the instructor's TA will check the submitted work for completeness and, if complete, will forward it to the instructor. The instructor will review the submitted work and will make the decision which letter grade the student should receive. This letter grade must not be higher than B+. This letter grade is considered the final course grade and cannot be contested by the student.
  6. If the student does not submit the missing work in time, the I grade changes to F.
  7. Whatever the I grade changes to will replace the I in the student's record.
  8. As long as a course grade is in the student's record as an I, it counts toward the student's credit hours, but is ignored in the calculation of the student's GPA.
  9. A student must not have more than 2 I grades on his/her record at any time.
- Students should be aware that the change of an I grade to an F can impact the student's status with respect to their visa.

## INTERNSHIP POLICY

After more than thirty years of service in higher education, Dr. Shu-Park Chan retired to found his life's capstone: International Technological University (ITU). ITU continues to fulfill its vision and mission of globalizing cutting-edge industry-focused education through all of its educational programs. In application, ITU has created a holistic learning model that marries work experience with in-class or online education from a student's initial time of enrollment. This synergistic combination creates a hands-on learning experience that builds job readiness.

As affirmed by the university's Academic Quality Committee (AQC), the following academic programs at ITU require students to participate in internship (one unit for Part-Time, three units for Full-Time, up to a maximum of nine units per degree) from the first trimester as a core part of the curriculum for their degree program:

### ITU's Degree Programs

Prior to registration, ITU must determine the relevance of an internship to a student's course of study. To do this, employers must submit an internship offer letter on the employer's letterhead, as well as complete ITU's Employer Cooperation Agreement. At the end of the trimester, employers must also submit the Final Evaluation Form to ITU's Student Records Office.

Case-by-case exceptions may be made if a student is unable to attain or work in an internship while studying. The Registrar's Office will review the exception to substitute in an additional course in the program of study as necessary. Final decisions regarding exceptions to the internship policy are under the discretion of the Registrar.

Once enrolled in the internship course, students are assigned an ITU faculty designated by the Department Chair of the respective program who will review the internship. These assigned faculty members are available to advise the student on what coursework will be most synergistic to the skills necessary for that internship.

Additionally, students are required to submit three documents for the approved internship each trimester. At the beginning of the trimester, they must submit an Internship Job Description. During the mid-term period, students are required to submit their Mid-Term Internship Report. At the end of the trimester, students are required to submit the Final Internship Report through ITU's Educational Management System (EMS).

\*Please note: All international students MUST obtain work authorization on their Form I-20 Certificate of Eligibility for Nonimmigrant (F-1) student status and present a photocopy to the employer BEFORE they can legally start their internship. Per USCIS regulations, any violations will result in the student's loss of legal status in the U.S. and subject him/her to deportation.

*Revised and Implemented Fall 2013*

## **NEW STUDENTS TRANSFER POLICY**

New transfer-in students may not transfer in and out in the same trimester. A student who does not register before the deadline will be considered "Out of Status."

## **POLICY FOR INDEPENDENT POLICY**

Independent Study (IS) is a form of educational activity involving an individual instructor and an individual student in which the student conducts research on a mutually agreed upon topic under loose guidance from the supervising instructor. Usually an instructor will make it known to the University in which fields s/he is willing to guide independent study in a particular trimester.

A student who intends to register for and conduct independent study (IS) has to follow the rules described below.

1. The student applies for independent study with the Registrar. The registrar approves or denies the application dependent on condition a) listed below. If approved, the Registrar issues to the student the 'Outline of Independent Study' form.
2. With this form the student seeks approval for IS from the Department Chair of the student's major and suggests a supervising instructor. The Department Chair approves or denies the application dependent on condition b) listed below which is subject to the Department Chair's judgment.
3. If approved the Department Chair assigns the suggested or a different instructor as supervising instructor at his/her discretion.
4. The instructor and the student fill out the 'Outline of Independent Study' form, which contains the student's and instructor's names, the trimester in which the IS is to be conducted, the credit units to be awarded, the topic of the IS, and the desired outcome. The maximum credit units for IS is 3. It can be reduced to 2 or 1 credit units by the supervising instructor at the preparation of the Outline form. The completed form is submitted to the Department Chair for approval.
5. Upon approval and signature of the Outline form by the Dept Chair the form is sent to the Registrar, who files it and makes the entry in the student's record, and EMS, as registered for IS.
6. IS must be conducted and completed in the trimester specified in the Outline form. Upon completion of the IS the instructor assigns a letter grade in compliance with the general grading policy. Assignment of Incomplete grade (I) is not allowed for IS.

Approval of Independent Study at ITU is subject to the following conditions:

- a) No course is available in the schedule for the given trimester that counts for the student's degree as listed in the curriculum.
- b) There is some hardship for the requesting student that makes the earning of additional credit units through IS a necessity (typically visa requirements, preceding loss of credits through disease etc.) If the situation of the requesting student is not deemed a hardship by the Department Chair, the application is denied.

The wish to gain more credit units than possible with the current course schedule, does

not constitute a hardship.

## **SATISFACTORY ACADEMIC PROGRESS (SAP)**

Formal Policy on Satisfactory Academic Progress (SAP) that matches current practice & is published (100% & 150%)

The Financial Aid office is required by federal law to monitor the progress that students make in their classes, even if they have never applied for financial aid. This process is known as Satisfactory Academic Progress, or SAP.

SAP requirements include:

- Students must maintain a satisfactory pace towards completing their degree
- Students must maintain a cumulative GPA
- Students must complete their degree within a maximum time frame
- More detailed information about each rule can be found below.

Effective Fall 2011, ITU will perform an evaluation of student records at the end of each term to determine compliance with the federal rules of Satisfactory Academic Progress (SAP). This is a mathematical test of a student's record against the three requirements with either a positive or negative outcome; positive meaning the record meets all requirements, negative meaning one of the three requirements was not met. This outcome affects a student's SAP status for the next evaluation period.

## **MAKING SATISFACTORY PROGRESS**

Each student begins their enrollment at ITU with a "Making Satisfactory Progress" status. A positive evaluation result means the student would keep that status, and a negative result would mean that the student would be put on warning status. No communication is sent to a student if there is no change in status. When a status change does occur, a paper letter is mailed to the student.

### **Requirement Details**

#### **Satisfactory Pace Towards Degree:**

- You must complete, with a passing grade, at least 67% of all coursework you attempt at ITU.
- Earned (completed) credits include grades of "A", "B", "C", "D", and "Pass" if class is "Pass/Fail" (repeat courses may only count as earned once, but each attempt will add to attempted hours)
- Attempted (not completed) include any credits in which a student was enrolled beyond the add/drop period and any transfer credits which have been accepted by ITU
- The number of earned credits divided by the number of attempted credits must be at least 67% to satisfy the requirement. All courses, including repeats, remedial, and ESL, count as attempts, even when they do not count as earned with a passing grade.

#### **GPA Requirement**

You must maintain a minimum cumulative grade point average (GPA) to prevent SAP warning or suspension. The minimum cumulative GPA required is as follows:

(Credit Hours Attempted) = (GPA Required)

0-6 = 1.50

6-12 = 2.00

12+ = 2.00

Graduate = 3.00

Maximum Time Frame (150% Rule):

An eligible graduate, or 2nd degree seeking student can receive Federal financial aid while attempting up to, but not exceeding, 150% of the published normal completion length of the student's program, regardless of enrollment status. For example, a student seeking a degree which requires 36 credit hours could receive financial aid while attempting 180 credit hours (36 X 150% = 54). Credits transferred to ITU, and any credits attempted at ITU, with or without the benefit of student financial aid, must be taken into consideration. Financial aid will be suspended when our office determines that a student cannot mathematically complete their degree within this timeframe.

Should a student not make the satisfactory academic progress, he/she would need to appeal the case to the Dean of Faculty. Dean of Faculty will review the document and working closely with the Registrar's office may or may not approve the appeal. "Extreme Hardship" may be count as a reason to extend the program and may be subject to approval of the appeal case.

Time Limits

All candidates for master's degrees must complete all the matriculation requirements within six calendar years after initial registration at ITU.

## **TRANSFERRING CREDITS**

Students who wish to transfer in credits from prior universities, must submit the request before they complete 19 units at ITU. Up to 9 units might be approved by the program chair. Those credits must be from accredited, US, graduate schools within the same academic level. The transferred classes must match classes that ITU currently offers within the student's program choice. An official transcript is needed. The University Registrar and the Department Chairs review, approve, or reject the request.

## **EXPERIENTIAL LEARNING**

International Technological University does not award credit for prior experiential learning.

## **ARTICULATION AGREEMENTS**

International Technological University has not entered into any articulation agreement with any other colleges or universities that provide for the transfer of credits earned in the program of instruction.



## **TRANSFERABILITY OF CREDITS AND CREDENTIAL EARNED AT OUR INSTITUTION**

The transferability of credits you earn at International Technological University is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the degree you earn in PhDEE, PhDIS, DBA, MBA, MSSE, MSEE, MSCE, MSDA, and MSEM is also at the complete discretion of the institution to which you may seek to transfer. If the course credits and degree that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason you should make certain that your attendance at ITU will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending International Technological University to determine if your credits, degree, or certificate will transfer.

## **WASC POLICY ON TEACH-OUT PLANS AND AGREEMENTS**

Adopted 08/21/2013

An institution accredited by the Commission must submit to the Commission for its prior approval a teach-out plan or agreement upon the occurrence of any of the following:

1. The Secretary of Education notifies WASC that the Secretary has initiated an emergency action against an institution in accordance with section 487(c)(1)(G) of the HEA or an action to limit, suspend, or terminate an institution participating in any Title IV, HEA program, in accordance with section 487(c)(1)(F) HEA, and that a teach-out plan is required.
2. WASC acts to withdraw, terminate, or suspend accreditation or candidacy of the institution.
3. The institution notifies WASC that it intends to cease operations entirely or close a location that provides one hundred percent of at least one program.
4. A state licensing or authorizing agency notifies WASC that an institution's license or legal authority to provide an educational program has been or will be revoked.

A teach-out plan means a written plan developed by that institution that provides for the equitable treatment of its own students if an institution, or an institutional location that provides one hundred percent of at least one program, ceases to operate before all students have completed their program of study, and may include if required by the institution's accrediting agency, a teach-out agreement between institutions. A teach-out agreement means a written agreement between two institutions that provides for equitable treatment of students under these circumstances. WASC may require an institution to enter into a teach-out agreement as part of its teach-out plan.

When an institution enters into a teach-out agreement with another institution, the initiating institution must submit the agreement to the Commission for approval prior to its implementation. The teach-out agreement may be approved only if the agreement is between institutions that are accredited by a nationally recognized accrediting agency; and

1. must be consistent with applicable standards of accreditation and Commission Policies;

2. Must provide for the equitable treatment of students by ensuring that the teach-out institution has the necessary experience, resources, and support services to provide an educational program that is of acceptable quality and reasonably similar in content, structure, and scheduling to that provided by the institution that is closing or discontinuing its program(s), to remain stable, carry out its mission, and to meet all obligations to its existing students;
3. Must ensure that the teach-out institution can provide students access to the program and services without requiring them to move or travel substantial distances;
4. Must provide for notification of another accrediting agency if the teach-out institution holds accreditation from that agency; and
5. Must specify additional charges, if any, levied by the teach-out institution and provide for notification to the students of any additional charges

If an institution the Commission accredits or has granted candidacy to closes without a teach-out plan, the Commission must work with the Department of Education and the appropriate State agency, to the extent feasible, to assist students in finding reasonable opportunities to complete their education without additional charges. The Commission has adopted Guidelines for Closing an Institution, available from the Commission office.

The University will provide all graduate students currently in the affected programs who have at least 3 hours in the major, an opportunity to complete degree requirements during a “teach out” period. Dean or designees will inform affected students of the program closure and the time within which they must complete the program. Students should work closely with the Registrar or designee, who will be knowledgeable about the projected course offerings of the terminated program. New students will not be enrolled in the program. The university will follow all rules and regulations stated by WASC and BPPE.

Addendum to the WASC Teach-Out Policy  
Approved 01/13/2014

For the fully online degree option to existing university Master’s programs, should it be necessary to teach out the online versions of these programs, the same WASC-approved policies will serve as a guide, and apply to all students who have enrolled in these programs.

1. Students in the online schedule of offerings will be informed of the teach-out of the fully online versions of the program and a teach-out schedule of online offerings in that program will be promulgated, which will permit students in continuous enrollment to complete the required coursework in the online delivery format.
2. All degree students may complete all degree requirements through on-campus offerings, in either weekend or weeknight schedules or a combination thereof.
3. For all students who cannot complete all course requirements in the teach-out period, a policy to permit students to transfer degree-relevant coursework from other WASC or regionally accredited institutions will be adopted to ensure students access to completing course requirements.
4. If needed, and with prior WASC approval, an articulation agreement will be developed to allow smooth transfer of ITU students into another regionally accredited university’s graduate programs in that discipline.
5. In exceptional cases, and where needed, individual teach-out plans will be

developed for any students in the program for whom the above accommodations do not permit timely completion of their respective degree programs.

## LEAVE OF ABSENCE POLICIES

1. One-Trimester Stop-out  
With certain restrictions and exceptions, matriculated students may stop-out from ITU for one trimester in a calendar year and maintain his or her continuing student status. Continuing status includes the maintenance of catalog year for graduation and priority registration privilege. Students who do not continue their studies after a one-trimester absence will be withdrawn from ITU.  
This section only applies to students in good academic standing. This section does not apply to newly admitted students who have not earned any credits at ITU. This section does not apply to F-1 International Students who were issued Forms I-20 by ITU.
2. Personal Leave of Absence  
ITU recognizes that a student might find it necessary to interrupt his or her progress toward a degree for various reasons such as medical, family, or other personal causes. To obtain an authorized break from ITU, a personal leave of absence application must be filed with and approved by the Office of the Registrar. Applicants must indicate in which trimester he or she will continue. The deadline to file the application is the first day of the trimester in which a student would like to begin the personal leave. Upon return from the approved personal leave, the students will retain his or her continuing status, which includes the maintenance of catalog year for graduation and priority registration privilege. However, if the personal leave of absence lasts for more than three (3) trimesters, the students' catalog year will be automatically changed to the academic year to which the students return. Failure to resume studies in the trimester indicated in the application will result in withdrawal by ITU. The Office of the Registrar does not extend an approved personal leave of absence. A new personal leave of absence application is required if a student seeks to return in a later trimester. This section only applies to students in good academic standing. Students are advised that they should pay attention to the time limit allowed to complete their degrees.
3. Restrictions on F-1 International Students  
Students on F-1 visas should seek advice from their International Student Advisors before filing for a personal leave of absence. The U.S. Federal Immigration Law and Regulation supersede the foregoing policy if any inconsistency arises. The final approval decision is at the discretion of the ITU International Student Office.

## **NONACADEMIC POLICIES**

### **DIVERSITY POLICY**

ITU firmly believes that personal diversity in all its aspects is essential to our ability to accomplish our mission. Diversity embodies all those differences that make us unique individuals and includes people of different race, ethnicity, culture, sexual orientation, gender, religion, age, personal style, physical ability as well as people of diverse opinions, perspectives, lifestyles, ideas and thinking. We value the differences in views and perspectives and the varied experiences that are part of a diverse organization. Diversity enriches and broadens our university, which in turn leads to more creative and meaningful programs.

For the same reasons, ITU values professional diversity. Academic professionals and faculty, administrators, and students, from all disciplines, from both the public and private sectors, from all economic strata, and from the least experienced to the most seasoned are vital to maximizing our experience. Only by drawing and retaining a diverse employee and contractor base will we guarantee success of our university as well as our respective professional pursuits. Therefore, ITU is committed to creating and maintaining a culture that promotes and supports diversity throughout our organization.

### **NONDISCRIMINATION POLICY**

ITU is committed to the most fundamental principles of academic freedom, equality of opportunity, and human dignity. This requires that decisions involving students and employees be based on individual merit and free from invidious discrimination of all forms, whether or not legally prohibited.

ITU's policy is to fully comply with applicable federal and state nondiscrimination and equal opportunity laws, orders and regulations. ITU will not discriminate in programs and activities against any person because of race, color, religion, sex, national origin, ancestry, age, marital status, handicap, unfavorable discharge from the military, or status as disabled veteran or veteran of Vietnam era. This nondiscrimination policy applies to admission, employment, access to and treatment in University programs and activities.

Complaints of invidious discrimination prohibited by university policy shall be resolved exclusively within existing ITU procedures.

### **SEXUAL HARASSMENT POLICY**

Sexual harassment is legally defined to include any unwanted sexual gesture, physical contact, or statement that is offensive, humiliating, or interfering with required tasks or career opportunities at ITU. Sexual harassment is prohibited under federal and state discrimination laws and the regulations of the Equal Employment Opportunity Commission.

ITU will not tolerate sexual harassment of students or employees and will take action to provide remedies when such harassment is discovered. The University environment must be free of sexual harassment in work and study. Appropriate sanctions will be imposed on offenders in a case-by-case manner to ensure ITU is free of sexual harassment. ITU will respond to every reported sexual harassment complaint.

## **WHISTLEBLOWER POLICY**

### **I. Summary of Policy**

This policy governs the reporting and investigation of allegations of suspected illegal or improper activities concerning the financial assets of the University, and the protection of whistleblowers from retaliation. It describes the procedures for investigating known or suspected illegal or improper activities and addressing complaints of retaliation for raising such issues.

### **II. Policy**

ITU has a responsibility for the stewardship of University resources and the private support that enables it to achieve its mission. The University's internal controls and operating procedures are intended to detect and to prevent illegal or improper activities relative to its financial assets. However, intentional and unintentional violations of laws, regulations, policies and procedures may occur and may constitute illegal or improper activities. The University has a responsibility to investigate and report to appropriate parties allegations of suspected illegal or improper activities, and to protect those employees who, in good faith, report these activities to the appropriate authority.

A ITU employee may not: (1) retaliate against an employee who has made a protected disclosure or who has refused to obey an illegal or improper order, nor (2) directly or indirectly use or attempt to use the official authority or influence of his or her position for the purpose of interfering with the right of an employee to make a protected disclosure to the University. It is the intention of the University to take whatever action may be needed to prevent and correct activities that violate this policy.

### **III. Procedure**

#### **A. Filing a Report of Suspected Illegal or Improper Activities Relative to Financial Assets**

1. Any person may report allegations of suspected illegal or improper activities. Knowledge or suspicion of illegal or improper activities may originate from academic personnel, staff or administrators carrying out their assigned duties, internal or external auditors, law enforcement, regulatory agencies, and customers, vendors, students or other third parties.
2. Allegations of suspected illegal or improper activities should be made in writing so as to assure a clear understanding of the issues raised. Such reports should be factual and contain as much specific information as possible.
3. Normally, a report by a ITU employee of allegations of a possible illegal or improper activity should be made to the reporting employee's immediate supervisor or other appropriate administrator or supervisor within the department. However, when the whistleblower believes there is a potential conflict of interest, such reports may be made to another University official<sup>20</sup> who has responsibility over the department in question or the authority to review the alleged illegal or improper activity on behalf of the University. Should the alleged illegal or

improper activities involve the President, Executive Vice President, or another Vice President, such reports may be made to the Chair of the Audit Committee of the Board of Trustees (c/o Board of Trustees, International Technological University).

4. When a person reports allegations of suspected illegal or improper activities to an appropriate authority, the report is known as a protected disclosure. University employees and applicants for employment who make a protected disclosure are protected from retaliation.
5. The Audit Committee may enlist outside legal, accounting or other advisors, as appropriate, to conduct any investigation of complaints regarding financial statement disclosures, disclosure concerns or violations, accounting, internal accounting controls, auditing matters or violations of the University's policies.

B. How to report improper acts If any employees have information regarding possible violations of state or federal statutes, rules, or regulations, or violations of fiduciary responsibility, call:

1. Office of the President – 888-488-4968 ext 300
2. Human Resources office – 888-488-4968 ext 280
3. California State Attorney General's Whistleblower Hotline – 800-952-5225. The Attorney General will refer your call to the appropriate government authority for review and possible investigation.
4. Report can be submitted through the suggestion box in the front desk area or an anonymous email from ITU website.

C. Protection from Retaliation

Any employee who believes he or she has been subjected to or affected by a retaliatory conduct for

(1) reporting suspected illegal or improper activity, or

(2) for refusing to engage in activity that would result in a violation of law, should report such conduct to the appropriate supervisory personnel (if such supervisory personnel is not the source of or otherwise involved in the retaliatory conduct). Any supervisory employee who receives such a report, or who otherwise is aware of retaliatory conduct, is required to advise the Human Resources Manager of any such report or knowledge of retaliatory conduct. If the employee believes that reporting such conduct to the appropriate supervisor is for any reason inappropriate, unacceptable or will be ineffectual, or if the report to the supervisor has been made and the retaliatory conduct has not ended, the employee should report the incident directly to an Executive Vice President, the President, or the Chair of the Audit Committee of the Board of Trustees. The University will use its best efforts to protect whistleblowers against any form of retaliation.

It cannot guarantee confidentiality, however, and there is no such thing as "unofficial" or "off the record" reporting. The University will keep the whistleblower's identity confidential, unless

(1) the person agrees to be identified; (2) identification is necessary to allow the University or law enforcement officials to investigate or respond effectively to the report; (3) identification is required by law; or (4) the person accused of illegal or improper activities is entitled to the information as a matter of legal right in disciplinary proceedings.

# **CAMPUS POLICIES**

## **CAMPUS ALCOHOL POLICY**

Since the consumption of alcoholic beverages is prohibited, alcoholic beverages may be consumed on University premises only during event being sponsored or hosted by a campus individual, university-recognized group, department, or office that get approval by the University President or an Executive Vice President. The event must operate within state and local laws as provided by the Department of Alcohol and Beverage Control (ABC).

It is the policy of ITU to maintain a drug-free workplace and campus. The workplace and campus are presumed to include all ITU premises where the activities of the University are conducted. The unlawful manufacture, distribution, dispensation, possession and/or use of controlled substances, or the unlawful possession, use, or distribution of alcohol is prohibited on the ITU campus, in the workplace, or as part of any of the University's activities

For approval of the detailed protocol on serving alcohol on campus, all of the following conditions shall prevail:

- The chair of the event and other officers or representatives of the event sponsor (21 years of age or older) who will be present throughout the event, who will refrain from consuming alcoholic beverages
- The monitoring and serving of alcohol shall be under the direct supervision of the chair of the event and other representatives of the event.
- It is the responsibility of the department to ensure that no alcohol is distributed to persons under the age of 21. Alcohol will only be served to individuals who are 21 or older with a valid, government issued photo identification.
- If there will be attendees at the event who are under the age of 21 years, the event sponsor must have a plan in place to ensure that these guests will not be served alcohol, e.g., ID cards must be shown upon entering the venue and wristbands must be distributed.
- Self-service of alcohol is not allowed in any location on the campus.
- Anyone who looks to be under the influence of alcohol and unable to exercise care for one's own safety or that of others should not be served alcohol and the Office of Campus Operations may be notified if there are further questions or concerns.
- Event sponsor should note that they may also be held responsible for serving alcohol to persons who drive while intoxicated.
- Event sponsor are encouraged to reduce the consumption of alcohol at least 1 hour prior to the scheduled ending time of the event.
- No open containers of alcohol may be present on campus at any time. All alcohol must be served, opened, and disposed of by staff members who are over 21 years of age.
- Event sponsor must properly secure all leftover beverages
- Alcoholic beverages shall only be consumed in the approved designated area.
- Alcohol is not permitted to be served unless suitable Equally Attractive Non-Alcoholic Beverages (EANAB's) and food shall be made available at all functions

when alcoholic beverages are served.  
IF IMMEDIATE ASSISTANCE IS NEEDED OR AN EMERGENCY OCCURS, INFORM  
OFFICE OF CAMPUS OPERATIONS AND CALL 911.

## **UNIVERSITY LOST & FOUND POLICY**

International Technological University's Lost & Found box is located at the Front Desk. When items are found, they are logged onto a log that is attached to the Lost & Found box and held for thirty days. Unclaimed items will be donated to charity after the thirty days. If possible, the Operations Office will make every effort to contact the owner of an item by phone or email, if the owner of the item can be identified.

Exemptions to the Policy:

- High value items will be logged onto the Lost & Found log but will be stored in the operations office. When a High value item is being claimed, the front desk staff will contact the Operations Manager and he will arrive to verify ownership prior to release. High value items include: driver's licenses, state/federal identification cards, ATM/debit/credit cards, checks, checkbooks, wallets, cell phones, and high value electronic items. High value electronic items include but are not limited to laptops, iPods, and mp3 players.
- Food and food/beverage containers turned into Lost and Found will be disposed of at the end of the day in which it was found.
- Any item deemed unsanitary will be disposed of immediately. In order to claim an item in Lost and Found the owner must provide a physical description of the item and current photo ID. The owner will be required to sign the item out once ownership has been established.

Any questions regarding Lost and Found items should be directed to the Operations Office at x217, or via email to the Operations Manager at [lferdinand@itu.edu](mailto:lferdinand@itu.edu).

## **PARKING POLICY**

- Parking is provided for the use of faculty, executive and full time staff of the University. You must have completed a parking permit application to be able to use.
- Parking areas are not to be used for distribution, solicitation, benefit sales or other activities of a similar nature, by employees of the University.
- ITU has no liability for loss or damage to automobiles or their contents while parked on University premises.
- All vehicles shall be parked within the boundaries of a market stall. Vehicles are prohibited from sidewalks, lawn lanes, and other areas not designated for driving or parking. Exceptions are maintenance, contractors, and emergency response vehicles.
- The lack of a readily available designated parking space is not an excuse for a violation of any parking regulation. Any vehicle found to be in violation will be towed
- Major vehicle repairs are not allowed on University property.

Special Parking Policy



- Drivers using parking designated for disabled persons must display a valid state issued placard, license plate, or other form of identification recognized by state or national authority.
- Reset parking key to let a second car in is prohibited. A \$17 penalty fee will be charged for the first time. Parking key will be permanently terminated if happens again, and the applicant will be prohibited applying for another parking key with Standard Parking.
- Parking key has to be used in full cycle. Exit gate will not up if parking key did not use when enter in. Do not try to exit when the gate is up without using parking key.
- It is staff and faculty own responsibilities to keep parking key in a safe and secure place at all times. A \$35 penalty fee will be charged for lost parking key.

## **UNIVERSITY PEST PREVENTION POLICY**

ITU has adopted the following prevention program to assist with the prevention and elimination of any pest reported to be within campus and to promote the health and safety of its community.

### **Pest Prevention Program**

1. There will be no overnight storage of foods, snacks, candies, etc. within or near a person's workstation regardless if it is store bought and still sealed from store purchase. Exception being food that is properly stored and sealed in either:
  - A glass sealable container (i.e. Rubbermaid glass container with lid)
  - A plastic sealable container (i.e. Tupperware)
2. Meals should not be regularly taken at one's desk. Please use designated break room.
3. Any use of silverware, glassware, or plates should be immediately washed and cleaned after use.
4. Disposal of food or drink items in approved receptacles only.
5. If at any time there is a sighting of any pest (insect, rodent, etc.) please contact the Operations Manager via email [lferdinand@itu.edu](mailto:lferdinand@itu.edu) or phone at x217

### **Reporting Violations of the Pest Prevention Program**

#### **Students**

Students working with ITU staff in offices must follow this policy. Witnessed violations may be reported to the campus Operations Office or the Human Resources Office. Any student, who violates ITU policy, will be subject to disciplinary action in accordance with ITU policy.

#### **Administrators, Faculty and Staff:**

Witnessed violations of ITU policy on the part of ITU employees or faculty may be reported to a manager, administrator, Campus Operations Manager, or Human Resources staff. The individual's manager or the Human Resources Director will be responsible for counseling the employee, in writing, about the requirement that the employee comply with ITU policy. Any employee who thereafter violates ITU policy will be subject to disciplinary action in accordance with ITU policy.

# **DEGREE PROGRAMS & REQUIREMENTS**

## **BUSINESS ADMINISTRATION**

### **FACULTY**

Amal Mougharbel, PhD, University de Corse Pascal Paoli, Department Chair of Business Administration

Frank Aguilera, PhD, Golden Gate University, Core Faculty of Business Administration  
George Guim, Ed.D, University of San Francisco, Core Faculty of Business Administration

Ramesh Konda, PhD, Nova Southeastern University, Core Faculty of Business Administration

### **MASTER OF BUSINESS ADMINISTRATION (BIO MANAGEMENT)**

In these days, the industry is in the process of transforming recent academic findings about our human genealogical structures into developing cures and medicines for various illnesses and diseases. Responding to this trend in industry, ITU has created a new focus of our Masters in Business Management. This MBA in Bio-Management will give students the same knowledge and skills as a traditional MBA program with an additional core focused in managing various aspects of the bio- tech industry.

ITU provides the highest quality of professional talent to teach the students the necessary skills of the field and to collaborate on real world problems in the bio-tech industry. Students who graduate with ITU's MBA in Bio-Management will be specifically suited for managing and auditing clinical trial studies, and the degree is also an excellent preparation for entering the bio-tech industry as an entrepreneur, a manager at a large scale multi-national enterprise, or any position in between.

#### Program Learning Outcomes:

Upon completion of this program, graduates will:

- Be able to find and solve common ethical and moral issues regarding clinical research.
- Understand various aspects of Bio Management environment, including legal, regulatory, political, social, and technical.
- Be able to write financial reporting and conduct Clinical Trials.
- Understand the protocol Development and Scientific Writing
- Understand the professional/leadership role in Bio environments.
- Know one's own professional values, potential career pathways, and Bio management role.
- Understand human behavior in Bio organizations, including the ability to lead and work in teams.
- Be able to effectively demonstrate verbal and written communication skills.
- Be able to apply and evaluate problem-solving methods and performance improvement techniques.
- Be able to demonstrate awareness of factors affecting Bio environment.
- Be able to apply knowledge from multidisciplinary resources to critically analyze current Bio management issues.

- Know the components of an Electronic Health Record, and other uses of Information Technology in Healthcare.

#### Program Requirements

6 Major Concentration Courses: 18 Units

6 Elective Courses: 18 Units

Internship: 3-9 Units (counts as elective)

LDP 200 and 300 (unless tested out): 6 Units Max. (counts as elective)

Cross Disciplinary Electives: Up to 3 Units

Transfer Credits: Up to 9 Units (counts as elective)

36 Total Units

#### Major Concentration Courses

BIOM 900 Concepts of Clinical Research Management

BIOM 901 Concepts of Modern Biology

BIOM 902 Clinical Biostatistics and Epidemiology

BIOM 903 Business and Scientific Writing

BIOM 904 Global Bio-Technology Entrepreneurship

BIOM 905 Human Ecology

BIOM 906 Biological Management

BIOM 907 Global Biotechnology

BIOM 908 Bioethics and policy

BIOM 909 Biotech industry fundamentals

BIOM 910 Bio Market Study

BIOM 911 Bio Economics

BIOM 912 Bio IT Fundamentals

BIOM 913 Bio IP and Patents

BIOM 914 Innovation and R&D Bio Management

BIOM 915 Regulatory Management in Biopharma

#### Elective Concentration

BPS 821 A Regulatory Overview for New Drug Development

HCM 904 Translating Biomedical Innovation from the Laboratory to the Marketplace

HCM 907 Healthcare sector Marketing

HCM 916 Healthcare Environment: Cultural and Behavioral Theories

HCM 925 Community Health

HCM 927 Principles of Health Promotion and Education

HCM 933 Complementary and Alternative Medicine

#### Business Electives

ACTN 900 Financial Accounting

ACTN 910 Managerial Accounting

ACTN 920 Cost Accounting

ACTN 921 Intermediate Accounting

ACTN 922 Forensic Accounting

ACTN 925 Accounting Information Systems/ERP

ACTN 926 International Accounting

CONS 900 Consilience Theory

ECON 920 Macroeconomic Theory

ECON 921 Microeconomics for Business Decisions

ECON 923 International Economics

ERP 901 Introduction to ERP Systems using SAP  
ERP 902 ABAP - Advanced Business Application Programming  
ERP 904 BI - Business Intelligence (BI)  
ERP 905 Enterprise Portal technology using NetWeaver  
ERP 907 Enterprise procurement processes (MM)  
ERP 912 Sales order management with ERP  
FINN 918 Financial Institutions  
FINN 919 Advanced Financial Management  
FINN 920 Financial Derivatives and Risk Management  
FINN 921 Financial and Socially Responsible Investing  
FINN 922 Corporate Valuation  
FINN 930 Investment Management  
FINN 931 International Financial Management  
FINN 932 Corporate Finance  
FINN 933 Managerial Finance  
FINN 934 Financial analysis and Corporate Policy  
FINN 935 Mergers and Acquisitions  
FINN 936 Behavioral Finance  
HRMG 940 Human Resource Management  
HRMG 941 Employee Training and Development  
HRMG 942 Employment law for business  
HRMG 943 Human Resource Planning  
HRMG 944 Managing Human Capital  
HRMG 945 Strategic compensation: issues and opportunities  
HRMG 946 Human Resources and Technology  
HRMG 947 Managerial Analysis & Team Dynamics  
HRMG 948 Managing Global Diversity  
INBS 910 Fundamentals of International Business  
INBS 913 Global Strategic Management  
INBS 914 International Monetary Economics  
INBS 915 International Human Resource Management  
INBS 916 Global Marketing and Strategy  
INBS 921 International Business Practicum  
MBAN 997 Research Methods  
MBAN 998 MBA Project  
MBAN 999 MBA Thesis  
MGTN 901 Principles of Management  
MGTN 910 Managing within the Law  
MGTN 915 Organizational Teamwork  
MGTN 916 Principles of Public Relations  
MGTN 917 Non-Linear Strategies for Business Success  
MGTN 922 Quality Control Management  
MGTN 923 Lean Six Sigma  
MGTN 924 Business Continuity Planning  
MGTN 925 Impact of Intellectual Property in a Global Economy  
MGTN 930 Strategic Operations Management  
MGTN 935 Contracts and Purchasing Management  
MGTN 942 Critical Thinking Strategies in Decision Making  
MGTN 943 High-Technology Entrepreneurship  
MGTN 944 International Management  
MGTN 945 Pitching a Business to Venture Capitalists

MGTN 945W Building a Pitch Deck for Venture Capitalists – Workshop  
MGTN 948 Project Management  
MGTN 949 Organizational Theory  
MGTN 950 Project risk management  
MGTN 951 Business Communications  
MGTN 952 Business Ethics  
MGTN 953 Business Law  
MGTN 954 Advanced Project Management  
MGTN 966 "Managing Emotions, Managing Self, and Others"  
MISY 910 Business Database Applications  
MISY 911 Business Telecommunications  
MISY 912 Information Resource Management  
MISY 913 Managing Global Information Systems Projects  
MISY 914 Information Systems Innovation  
MISY 915 Management Information Systems  
MISY 916 Human-Computer Interaction  
MISY 917 Business Decision Support Systems  
MISY 918 Data Mining and Business Intelligence  
MISY 920 Software Development Process Management  
MISY 921 Knowledge Management  
MISY 925 Public Information Management  
MISY 926 Strategic Management of Information Technology  
MISY 930 Business Information Systems & Technologies  
MKTN 950 Entrepreneurial Marketing  
MKTN 952 Supply Chain Management  
MKTN 953 International Marketing  
MKTN 954 Marketing Research  
MKTN 955 Strategic Application of Technology in Marketing  
MKTN 956 Comparative Studies of MNC, FDI, and International Trade  
MKTN 957 Consumer Behavior  
MKTN 958 Marketing Management  
MKTN 959 Advanced Marketing  
MKTN 961 E-commerce  
MKTN 962 Marketing with Social Media  
MKTN 963 Advertising Strategy  
MKTN 964 Brand Management  
MKTN 965 Supplier/Seller Management  
PMGT 900 Project Management Frameworks  
PMGT 901 Strategic Planning & Portfolio Management  
PMGT 902 Mastering Project Management  
PMGT 904 Project Management & Leadership  
PMGT 905 Project Management - Agile Approach  
PMGT 910 Operation Management In Project Management  
PMGT 911 Contract Management & Financial Planning  
PMGT 912 Management Of Organizational Changes  
PMGT 913 Business Analysis & Design  
PMGT 914 Process Mapping & Control  
PMGT 915 Quality Management in Project Execution  
PMGT 920 Project Cost Management  
PMGT 925 Project Procurement Management

## **MASTER OF BUSINESS ADMINISTRATION (HEALTHCARE MANAGEMENT)**

International Technological University offers typical coursework in the Healthcare Management program, which includes topics such as accounting, marketing, finance, law and management as they relate to the healthcare industry. Qualified healthcare managers are in increasing demand for positions such as Health and Social Service Manager, Patient Accounts Supervisor, Home Healthcare Manager, Health and Safety Manager, Health Information Manager, and Health Services Manager.

### Curriculum:

The MBA Healthcare Management program builds on the established strength of the management skills to provide expertise in the unique elements and issues of the healthcare industry. ITU healthcare program is well-qualified to respond to the many critical problems now faced by hospitals, government agencies, group practices, pharmaceutical and biotechnology firms, insurance and managed care organizations, and consulting firms. Healthcare majors benefit from an interdisciplinary faculty based in the business, medical, and nursing schools.

### Program Learning Outcomes:

Upon completion of this program, graduates will:

- Be able to make ethical decisions about healthcare issues.
- Understand various aspects of a healthcare environment, including legal, regulatory, political, social and technical.
- Understand the professional/leadership role in health environments to improve the quality of health.
- Know the healthcare laws and regulations in order to proactively follow them.
- Know one's own professional values, potential career pathways, and healthcare role development opportunities.
- Understand the structure of healthcare delivery and finances.
- Understand the human behavior in healthcare organizations, including the ability to lead and work in teams.
- Be able to effectively demonstrate verbal and written communication skills.
- Be able to apply and evaluate problem-solving methods and performance improvement techniques.
- Be able to demonstrate awareness of factors affecting health, including culture, age, gender and socio-economic status.
- Be able to assume a professional/leadership role.
- Be able to apply knowledge from multidisciplinary resource to critically analyze current healthcare issues.
- Know the components of an Electronic Health Record, and other uses of Information Technology in Healthcare.

### Program Requirements

6 Major Concentration Courses: 18 Units

6 Elective Courses: 18 Units

Internship: 3-9 Units (counts as elective)

LDP 200 and 300 (unless tested out): 6 Units Max. (counts as elective)

Cross Disciplinary Electives: Up to 3 Units

Transfer Credits: Up to 9 Units (counts as elective)

## 36 Total Units

### Major Concentration Courses

HCM 901 Concepts of Healthcare Management  
HCM 902 Health Service Delivery  
HCM 903 Healthcare Company/Industry Structure  
HCM 904 Translating Biomedical Innovation from the Laboratory to the Marketplace  
HCM 905 Health Sector Innovation  
HCM 906 Health Information Technology  
HCM 907 Healthcare sector Marketing  
HCM 908 Global Entrepreneurship in the Health Sector  
HCM 909 Good Clinical Practice (GCP)  
HCM 911 Healthcare Ethics  
HCM 912 "Healthcare Leadership Patient Safety and Quality Improvement"  
HCM 915 Healthcare Strategic Management  
HCM 916 Healthcare Environment: Cultural and Behavioral Theories  
HCM 917 Healthcare in America  
HCM 918 Principles of Global Healthcare  
HCM 919 Aging in America  
HCM 920 Healthcare Vulnerable Populations  
HCM 921 Principles of Managed Care  
HCM 922 Ambulatory Care Administration  
HCM 923 Long-Term Care Administration  
HCM 924 Home Care Administration  
HCM 925 Community Health  
HCM 926 Organizational Development in Healthcare  
HCM 927 Principles of Health Promotion and Education  
HCM 930 Mental Health and Wellbeing  
HCM 931 Healthcare Policy and Regulation  
HCM 932 Healthcare Risk Management  
HCM 933 Complementary and Alternative Medicine  
HCM 934 Health Information and Communications Systems

### Healthcare Elective

BIOM 900 Concepts of Clinical Research Management  
BIOM 901 Concepts of Modern Biology  
BIOM 902 Clinical Biostatistics and Epidemiology  
BIOM 903 Business and Scientific Writing  
BIOM 905 Human Ecology  
BIOM 907 Global Biotechnology  
BIOM 908 Bioethics and policy  
BIOM 909 Biotech industry fundamentals  
BIOM 912 Bio IT Fundamentals  
BIOM 914 Innovation and R&D Bio Management  
BIOM 915 Regulatory Management in Biopharma  
BPS 821 A Regulatory Overview for New Drug Development

### Business Elective

ACTN 900 Financial Accounting  
ACTN 910 Managerial Accounting  
ACTN 920 Cost Accounting

ACTN 921 Intermediate Accounting  
 ACTN 922 Forensic Accounting  
 ACTN 925 Accounting Information Systems/ERP  
 ACTN 926 International Accounting  
 CONS 900 Consilience Theory  
 ECON 920 Macroeconomic Theory  
 ECON 921 Microeconomics for Business Decisions  
 ECON 923 International Economics  
 ERP 901 Introduction to ERP Systems using SAP  
 ERP 902 ABAP - Advanced Business Application Programming  
 ERP 904 BI - Business Intelligence (BI)  
 ERP 905 Enterprise Portal technology using NetWeaver  
 ERP 907 Enterprise procurement processes (MM)  
 ERP 912 Sales order management with ERP  
 FINN 918 Financial Institutions  
 FINN 919 Advanced Financial Management  
 FINN 920 Financial Derivatives and Risk Management  
 FINN 921 Financial and Socially Responsible Investing  
 FINN 922 Corporate Valuation  
 FINN 930 Investment Management  
 FINN 931 International Financial Management  
 FINN 932 Corporate Finance  
 FINN 933 Managerial Finance  
 FINN 934 Financial analysis and Corporate Policy  
 FINN 935 Mergers and Acquisitions  
 FINN 936 Behavioral Finance  
 HRMG 940 Human Resource Management  
 HRMG 941 Employee Training and Development  
 HRMG 942 Employment law for business  
 HRMG 943 Human Resource Planning  
 HRMG 944 Managing Human Capital  
 HRMG 945 Strategic compensation: issues and opportunities  
 HRMG 946 Human Resources and Technology  
 HRMG 947 Managerial Analysis & Team Dynamics  
 HRMG 948 Managing Global Diversity  
 INBS 910 Fundamentals of International Business  
 INBS 913 Global Strategic Management  
 INBS 914 International Monetary Economics  
 INBS 915 International Human Resource Management  
 INBS 916 Global Marketing and Strategy  
 INBS 921 International Business Practicum  
 MBAN 997 Research Methods  
 MBAN 998 MBA Project  
 MBAN 999 MBA Thesis  
 MGTN 901 Principles of Management  
 MGTN 910 Managing within the Law  
 MGTN 915 Organizational Teamwork  
 MGTN 916 Principles of Public Relations  
 MGTN 917 Non-Linear Strategies for Business Success  
 MGTN 922 Quality Control Management  
 MGTN 923 Lean Six Sigma



MGTN 924 Business Continuity Planning  
MGTN 925 Impact of Intellectual Property in a Global Economy  
MGTN 930 Strategic Operations Management  
MGTN 935 Contracts and Purchasing Management  
MGTN 942 Critical Thinking Strategies in Decision Making  
MGTN 943 High-Technology Entrepreneurship  
MGTN 944 International Management  
MGTN 945 Pitching a Business to Venture Capitalists  
MGTN 945W Building a Pitch Deck for Venture Capitalists – Workshop  
MGTN 948 Project Management  
MGTN 949 Organizational Theory  
MGTN 950 Project risk management  
MGTN 951 Business Communications  
MGTN 952 Business Ethics  
MGTN 953 Business Law  
MGTN 954 Advanced Project Management  
MGTN 966 "Managing Emotions, Managing Self, and Others"  
MISY 910 Business Database Applications  
MISY 911 Business Telecommunications  
MISY 912 Information Resource Management  
MISY 913 Managing Global Information Systems Projects  
MISY 914 Information Systems Innovation  
MISY 915 Management Information Systems  
MISY 916 Human-Computer Interaction  
MISY 917 Business Decision Support Systems  
MISY 918 Data Mining and Business Intelligence  
MISY 920 Software Development Process Management  
MISY 921 Knowledge Management  
MISY 925 Public Information Management  
MISY 926 Strategic Management of Information Technology  
MISY 930 Business Information Systems & Technologies  
MKTN 950 Entrepreneurial Marketing  
MKTN 952 Supply Chain Management  
MKTN 953 International Marketing  
MKTN 954 Marketing Research  
MKTN 955 Strategic Application of Technology in Marketing  
MKTN 956 Comparative Studies of MNC, FDI, and International Trade  
MKTN 957 Consumer Behavior  
MKTN 958 Marketing Management  
MKTN 959 Advanced Marketing  
MKTN 961 E-commerce  
MKTN 962 Marketing with Social Media  
MKTN 963 Advertising Strategy  
MKTN 964 Brand Management  
MKTN 965 Supplier/Seller Management  
PMGT 900 Project Management Frameworks  
PMGT 901 Strategic Planning & Portfolio Management  
PMGT 902 Mastering Project Management  
PMGT 904 Project Management & Leadership  
PMGT 905 Project Management - Agile Approach  
PMGT 910 Operation Management In Project Management

PMGT 911 Contract Management & Financial Planning  
PMGT 912 Management Of Organizational Changes  
PMGT 913 Business Analysis & Design  
PMGT 914 Process Mapping & Control  
PMGT 915 Quality Management in Project Execution  
PMGT 920 Project Cost Management  
PMGT 925 Project Procurement Management

## **MASTER OF BUSINESS ADMINISTRATION**

The MBA is designed as a balanced preparation for managerial careers in business. Its purpose is to prepare students for responsible positions in a rapidly changing world; to develop an attitude of intellectual curiosity to foster a program of continuous learning throughout life; and to study management as a unique function applicable to all types of endeavors which involve the coordination of people and material resources toward given objectives.

The program provides the students a solid foundation in Accounting, Economics, Finance, International Business, Management, and Marketing that will be as valuable ten years from now as it is today. The University's location in the heart of Silicon Valley provides its MBA students with exposure to the unique entrepreneurial success in this region. The MBA faculty has many years of experience in starting companies, managing corporations, directing advanced product development, and consulting for major companies.

The MBA program requires successful completion of 36 trimester units. The program offers concentrations in different disciplines, such as Accounting, Finance, Human Resources, Management Information Systems, International Business, Management, Marketing, General MBA, and Enterprise Resource Planning (ERP). Concentration and elective courses provide flexibility in customizing the program to meet professional and personal goals.

To be admitted to the MBA program, the students should possess an undergraduate degree. If the undergraduate degree is in the area of business administration or a related field, then a minimum grade point average of 3.0 is required for the last half of courses taken that count for the degree. If the undergraduate degree is in a different field, then the minimum grade point average required for all courses in that degree is 3.0. Exceptions to these requirements can be made by the academic council.

Students who don't have an undergraduate degree, or have a degree from a discipline other than business, but are otherwise qualified may be admitted as unclassified. These students must complete the missing necessary coursework to become candidates. During this time they are officially considered graduate students in the University.

### Notes:

1. Note: Only one course from any ITU programs will be counted in the curriculum of the MBA Program (e.g. Web Graphic Design, Software Testing, or any other course upon the advisor's approval.)
2. Note: Project/Independent study. The student is allowed to take up to 9 credits (exceptions to this requirement can be made by the department chair):

- a. 3 independent study topics (GRN 921, 922, 923), OR
- b. 2 independent study topics (GRN 921, 922, 923), and 1 project (3 credits), OR
- c. 1 independent study topic (GRN 921, 922, 923), and 1 project (6 credits).

3. Note: Students who are on CPT should take the Independent study GRN 921, 922, or 923. For the students who are not on CPT, ONLY one independent study course is counted in the degree.

4. Note: The students who take major concentration courses from concentrations other than their field of study, the completed courses will be considered electives.

#### Program Learning Outcomes:

Upon completion of this program, graduates will:

- Be able to make ethical decisions in a business context.
- Understand various aspects of a business environment, including legal, regulatory, political, social, and technical.
- Be able to write financial reporting and conduct market analyses.
- Be able to survey the evidence and the psychology to examine theories of financial markets with an eye towards identifying boundaries and opportunities for new research.
- Know how to operate a business in the international arena with awareness and sensitivity to foreign cultures.
- Understand the creation and distribution of goods and services.
- Understand human behavior in organizations, including the ability to lead and work in teams.
- Be able to effectively demonstrate verbal and written communication skills.
- Be able to apply quantitative and qualitative analysis.
- Be familiar with current technologies.
- Be able to demonstrate multicultural awareness.
- Be able to assume a leadership role.
- Know integrative and cross-functional pedagogy, linking business theory with business practice, to critically analyze current problems.
- Know how to customize SAP on business modules.

#### Curriculum for each MBA concentration

### **MASTER OF BUSINESS ADMINISTRATION (GENERAL)**

#### Program Requirements

2 Core Courses: 6 Units

10 Elective Courses: 30 Units

Internship: 3-9 Units (counts as elective)

LDP 200 and 300 (unless tested out): 6 Units Max. (counts as elective)

Cross Disciplinary Electives: Up to 3 Units

Transfer Credits: Up to 9 Units (counts as elective)

36 Total Units

#### Core Courses

ACTN 900 Financial Accounting

ACTN 910 Managerial Accounting

ECON 920 Macroeconomic Theory  
FINN 932 Corporate Finance

Elective Courses

ACTN 920 Cost Accounting  
ACTN 921 Intermediate Accounting  
ACTN 922 Forensic Accounting  
ACTN 923 Advanced Accounting  
ACTN 924 Auditing  
ACTN 925 Accounting Information Systems/ERP  
ACTN 926 International Accounting  
ACTN 927 Tax Accounting Principles  
ACTN 928A Payroll Accounting  
ACTN 928B Payroll Tech Accounting  
ACTN 929 Federal Personal Income Taxation  
ACTN 930 Federal Corporate Taxation  
ACTN 940 Federal Partnership Taxation  
ACTN 991 CPA Exam: Auditing and Attestation  
ACTN 993 CPA Exam: Financial Accounting and Reporting  
ACTN 994 CPA Exam: Regulation  
CONS 900 Consilience Theory  
ECON 920 Macroeconomic Theory  
ECON 921 Microeconomics for Business Decisions  
ECON 922 Econometrics  
ECON 923 International Economics  
EDBS 901 Computer Applications in Education  
ERP 901 Introduction to ERP Systems using SAP  
ERP 902 ABAP - Advanced Business Application Programming  
ERP 904 BI - Business Intelligence (BI)  
ERP 905 Enterprise Portal technology using NetWeaver  
ERP 906 ERP CRM - Customer Relationship Management  
ERP 907 Enterprise procurement processes (MM)  
ERP 908 Human Resource Implementation  
ERP 910 Software as a service (SAAS)  
ERP 911 Security Management  
ERP 912 Sales order management with ERP  
ERP 913 Workflow Management  
FINN 916 Securities Analysis  
FINN 917 Financial Economics  
FINN 918 Financial Institutions  
FINN 919 Advanced Financial Management  
FINN 920 Financial Derivatives and Risk Management  
FINN 922 Corporate Valuation  
FINN 930 Investment Management  
FINN 931 International Financial Management  
FINN 932 Corporate Finance  
FINN 933 Managerial Finance  
FINN 934 Financial analysis and Corporate Policy  
FINN 935 Mergers and Acquisitions  
FINN 936 Behavioral Finance  
HRMG 940 Human Resource Management

HRMG 941 Employee Training and Development  
HRMG 942 Employment law for business  
HRMG 943 Human Resource Planning  
HRMG 944 Managing Human Capital  
HRMG 945 Strategic compensation: issues and opportunities  
HRMG 946 Human Resources and Technology  
HRMG 947 Managerial Analysis & Team Dynamics  
HRMG 948 Managing Global Diversity  
INBS 910 Fundamentals of International Business  
INBS 911 International Financial Markets  
INBS 912 International Law  
INBS 913 Global Strategic Management  
INBS 914 International Monetary Economics  
INBS 915 International Human Resource Management  
INBS 916 Global Marketing and Strategy  
INBS 921 International Business Practicum  
INMG 910 Principles of quality management  
MBAN 997 Research Methods  
MBAN 998 MBA Project  
MBAN 999 MBA Thesis  
MGTN 901 Principles of Management  
MGTN 902 Business Statistics  
MGTN 910 Managing within the Law  
MGTN 915 Organizational Teamwork  
MGTN 916 Principles of Public Relations  
MGTN 917 Non-Linear Strategies for Business Success  
MGTN 920 Production and Operations Management  
MGTN 922 Quality Control Management  
MGTN 923 Lean Six Sigma  
MGTN 924 Business Continuity Planning  
MGTN 925 Impact of Intellectual Property in a Global Economy  
MGTN 930 Strategic Operations Management  
MGTN 935 Contracts and Purchasing Management  
MGTN 942 Critical Thinking Strategies in Decision Making  
MGTN 943 High-Technology Entrepreneurship  
MGTN 944 International Management  
MGTN 945 Pitching a Business to Venture Capitalists  
MGTN 945W Building a Pitch Deck for Venture Capitalists – Workshop  
MGTN 947 High Performance Leadership  
MGTN 948 Project Management  
MGTN 949 Organizational Theory  
MGTN 950 Project risk management  
MGTN 951 Business Communications  
MGTN 952 Business Ethics  
MGTN 953 Business Law  
MGTN 954 Advanced Project Management  
MGTN 966 Managing Emotions, Managing Self, and Others  
MISY 910 Business Database Applications  
MISY 911 Business Telecommunications  
MISY 912 Information Resource Management  
MISY 913 Managing Global Information Systems Projects

MISY 914 Information Systems Innovation  
 MISY 915 Management Information Systems  
 MISY 916 Human-Computer Interaction  
 MISY 917 Business Decision Support Systems  
 MISY 918 Data Mining and Business Intelligence  
 MISY 920 Software Development Process Management  
 MISY 921 Knowledge Management  
 MISY 925 Public Information Management  
 MISY 926 Strategic Management of Information Technology  
 MISY 930 Business Information Systems & Technologies  
 MKTN 950 Entrepreneurial Marketing  
 MKTN 951 Competitive Marketing Strategies  
 MKTN 952 Supply Chain Management  
 MKTN 953 International Marketing  
 MKTN 954 Marketing Research  
 MKTN 955 Strategic Application of Technology in Marketing  
 MKTN 956 Comparative Studies of MNC, FDI, and International Trade  
 MKTN 957 Consumer Behavior  
 MKTN 958 Marketing Management  
 MKTN 959 Advanced Marketing  
 MKTN 960 Effective Marketing Planning In Dynamic Environments  
 MKTN 961 E-commerce  
 MKTN 962 Marketing with Social Media  
 MKTN 963 Advertising Strategy  
 MKTN 964 Brand Management  
 MKTN 965 Supplier/Seller Management  
 PMGT 900 Project Management Frameworks  
 PMGT 901 Strategic Planning & Portfolio Management  
 PMGT 902 Mastering Project Management  
 PMGT 903 Technical Skills in Project Implementation  
 PMGT 904 Project Management & Leadership  
 PMGT 905 Project Management - Agile Approach  
 PMGT 910 Operation Management In Project Management  
 PMGT 911 Contract Management & Financial Planning  
 PMGT 912 Management Of Organizational Changes  
 PMGT 913 Business Analysis & Design  
 PMGT 914 Process Mapping & Control  
 PMGT 915 Quality Management in Project Execution  
 PMGT 920 Project Cost Management  
 PMGT 925 Project Procurement Management

## **MASTER OF BUSINESS ADMINISTRATION (ACCOUNTING)**

### Program Requirements

2 Core Courses: 6 Units

4 Major Concentration Courses: 12 Units

6 Elective Courses: 18 Units

Internship: 3-9 Units (counts as elective)

LDP 200 and 300 (unless tested out): 6 Units Max. (counts as elective)

Cross Disciplinary Electives: Up to 3 Units

Transfer Credits: Up to 9 Units (counts as elective)  
36 Total Units

Core Courses

ACTN 900 Financial Accounting  
ACTN 910 Managerial Accounting  
ECON 920 Macroeconomic Theory  
FINN 932 Corporate Finance

Major Concentration Courses

ACTN 920 Cost Accounting  
ACTN 921 Intermediate Accounting  
ACTN 922 Forensic Accounting  
ACTN 923 Advanced Accounting  
ACTN 924 Auditing  
ACTN 925 Accounting Information Systems/ERP  
ACTN 927 Tax Accounting Principles

Elective Concentration

ACTN 926 International Accounting  
ACTN 928A Payroll Accounting  
ACTN 928B Payroll Tech Accounting  
ACTN 929 Federal Personal Income Taxation  
ACTN 930 Federal Corporate Taxation  
ACTN 940 Federal Partnership Taxation  
ACTN 991 CPA Exam: Auditing and Attestation  
ACTN 992 CPA Exam: Business Environment and Concepts  
ACTN 993 CPA Exam: Financial Accounting and Reporting  
ACTN 994 CPA Exam: Regulation

Business Electives

CONS 900 Consilience Theory  
ECON 921 Microeconomics for Business Decisions  
ECON 922 Econometrics  
ECON 923 International Economics  
EDBS 901 Computer Applications in Education  
ERP 901 Introduction to ERP Systems using SAP  
ERP 902 ABAP - Advanced Business Application Programming  
ERP 903 ERP Product Lifecycle Management (PLM)  
ERP 904 BI - Business Intelligence (BI)  
ERP 905 Enterprise Portal technology using NetWeaver  
ERP 906 ERP CRM - Customer Relationship Management  
ERP 907 Enterprise procurement processes (MM)  
ERP 908 Human Resource Implementation  
ERP 910 Software as a service (SAAS)  
ERP 911 Security Management  
ERP 912 Sales order management with ERP  
ERP 913 Workflow Management  
FINN 916 Securities Analysis  
FINN 917 Financial Economics  
FINN 918 Financial Institutions

FINN 919 Advanced Financial Management  
 FINN 920 Financial Derivatives and Risk Management  
 FINN 921 Financial and Socially Responsible Investing  
 FINN 922 Corporate Valuation  
 FINN 930 Investment Management  
 FINN 931 International Financial Management  
 FINN 933 Managerial Finance  
 FINN 934 Financial analysis and Corporate Policy  
 FINN 935 Mergers and Acquisitions  
 FINN 936 Behavioral Finance  
 HRMG 940 Human Resource Management  
 HRMG 941 Employee Training and Development  
 HRMG 942 Employment law for business  
 HRMG 943 Human Resource Planning  
 HRMG 944 Managing Human Capital  
 HRMG 945 Strategic compensation: issues and opportunities  
 HRMG 946 Human Resources and Technology  
 HRMG 947 Managerial Analysis & Team Dynamics  
 HRMG 948 Managing Global Diversity  
 INBS 910 Fundamentals of International Business  
 INBS 911 International Financial Markets  
 INBS 912 International Law  
 INBS 913 Global Strategic Management  
 INBS 914 International Monetary Economics  
 INBS 915 International Human Resource Management  
 INBS 916 Global Marketing and Strategy  
 INBS 921 International Business Practicum  
 INMG 910 Principles of quality management  
 MBAN 997 Research Methods  
 MBAN 998 MBA Project  
 MBAN 999 MBA Thesis  
 MGTN 901 Principles of Management  
 MGTN 902 Business Statistics  
 MGTN 910 Managing within the Law  
 MGTN 915 Organizational Teamwork  
 MGTN 916 Principles of Public Relations  
 MGTN 917 Non-Linear Strategies for Business Success  
 MGTN 920 Production and Operations Management  
 MGTN 922 Quality Control Management  
 MGTN 923 Lean Six Sigma  
 MGTN 924 Business Continuity Planning  
 MGTN 925 Impact of Intellectual Property in a Global Economy  
 MGTN 930 Strategic Operations Management  
 MGTN 935 Contracts and Purchasing Management  
 MGTN 942 Critical Thinking Strategies in Decision Making  
 MGTN 943 High-Technology Entrepreneurship  
 MGTN 944 International Management  
 MGTN 945 Pitching a Business to Venture Capitalists  
 MGTN 945W Building a Pitch Deck for Venture Capitalists – Workshop  
 MGTN 947 High Performance Leadership  
 MGTN 948 Project Management



MGTN 949 Organizational Theory  
MGTN 950 Project risk management  
MGTN 951 Business Communications  
MGTN 952 Business Ethics  
MGTN 953 Business Law  
MGTN 954 Advanced Project Management  
MGTN 966 "Managing Emotions, Managing Self, and Others"  
MISY 910 Business Database Applications  
MISY 911 Business Telecommunications  
MISY 912 Information Resource Management  
MISY 913 Managing Global Information Systems Projects  
MISY 914 Information Systems Innovation  
MISY 915 Management Information Systems  
MISY 916 Human-Computer Interaction  
MISY 917 Business Decision Support Systems  
MISY 918 Data Mining and Business Intelligence  
MISY 920 Software Development Process Management  
MISY 921 Knowledge Management  
MISY 925 Public Information Management  
MISY 926 Strategic Management of Information Technology  
MISY 930 Business Information Systems & Technologies  
MKTN 950 Entrepreneurial Marketing  
MKTN 951 Competitive Marketing Strategies  
MKTN 952 Supply Chain Management  
MKTN 953 International Marketing  
MKTN 954 Marketing Research  
MKTN 955 Strategic Application of Technology in Marketing  
MKTN 956 Comparative Studies of MNC, FDI, and International Trade  
MKTN 957 Consumer Behavior  
MKTN 958 Marketing Management  
MKTN 959 Advanced Marketing  
MKTN 960 Effective Marketing Planning In Dynamic Environments  
MKTN 961 E-commerce  
MKTN 962 Marketing with Social Media  
MKTN 963 Advertising Strategy  
MKTN 964 Brand Management  
MKTN 965 Supplier/Seller Management  
PMGT 900 Project Management Frameworks  
PMGT 901 Strategic Planning & Portfolio Management  
PMGT 902 Mastering Project Management  
PMGT 903 Technical Skills in Project Implementation  
PMGT 904 Project Management & Leadership  
PMGT 905 Project Management - Agile Approach  
PMGT 910 Operation Management In Project Management  
PMGT 911 Contract Management & Financial Planning  
PMGT 912 Management Of Organizational Changes  
PMGT 913 Business Analysis & Design  
PMGT 914 Process Mapping & Control  
PMGT 915 Quality Management in Project Execution  
PMGT 920 Project Cost Management  
PMGT 925 Project Procurement Management

## **MASTER OF BUSINESS ADMINISTRATION (DIGITAL MEDIA MANAGEMENT)**

### Program Requirements

6 Major Concentration Courses: 18 Units

6 Elective Courses: 18 Units

Internship: 3-9 Units (counts as elective)

LDP 200 and 300 (unless tested out): 6 Units Max. (counts as elective)

Cross Disciplinary Electives: Up to 3 Units

Transfer Credits: Up to 9 Units (counts as elective)

36 Total Units

### Major Concentration Courses

MMM 710 Digital Media Distribution

MMM 720 Producing Digital Media

MMM 810 Production Pipelines

MMM 820 Global Storytelling

MMM 830 Design Fundamentals

MMM 831 CG Software Fundamentals

MMM 840 World Art & Design History

MMM 890 Social Network Marketing & Publishing

MMM 905 New Media Production

MMM 910 Storyboard Design

MMM 920 UI/UX: User Interfaces & User Experiences

SEN 991 Computer Graphics

### Digital Arts Elective

MMM 850 Sound Design

MMM 860 CG Modeling

MMM 870 Basic Image Manipulation

MMM 909 Intro to Game Development

MMM 911 Web Graphic Design

MMM 921 Storyboards and Layouts

MMM 930 Manufacturing Cinematic Space

MMM 940 Architectural Tours

MMM 950 Lighting and Compositing

MMM 999 Concept Art and Storyboarding

### Business Electives

ACTN 900 Financial Accounting

ACTN 910 Managerial Accounting

ACTN 926 International Accounting

CONS 900 Consilience Theory

ECON 920 Macroeconomic Theory

ECON 921 Microeconomics for Business Decisions

ECON 923 International Economics

FINN 918 Financial Institutions

FINN 919 Advanced Financial Management

FINN 920 Financial Derivatives and Risk Management

FINN 921 Financial and Socially Responsible Investing

FINN 922 Corporate Valuation

FINN 931 International Financial Management  
 FINN 932 Corporate Finance  
 FINN 936 Behavioral Finance  
 HRMG 940 Human Resource Management  
 HRMG 942 Employment law for business  
 HRMG 946 Human Resources and Technology  
 HRMG 947 Managerial Analysis & Team Dynamics  
 HRMG 948 Managing Global Diversity  
 INBS 910 Fundamentals of International Business  
 INBS 913 Global Strategic Management  
 INBS 914 International Monetary Economics  
 INBS 921 International Business Practicum  
 MBAN 997 Research Methods  
 MBAN 998 MBA Project  
 MBAN 999 MBA Thesis  
 MGTN 901 Principles of Management  
 MGTN 910 Managing within the Law  
 MGTN 915 Organizational Teamwork  
 MGTN 916 Principles of Public Relations  
 MGTN 917 Non-Linear Strategies for Business Success  
 MGTN 922 Quality Control Management  
 MGTN 923 Lean Six Sigma  
 MGTN 924 Business Continuity Planning  
 MGTN 925 Impact of Intellectual Property in a Global Economy  
 MGTN 930 Strategic Operations Management  
 MGTN 935 Contracts and Purchasing Management  
 MGTN 942 Critical Thinking Strategies in Decision Making  
 MGTN 943 High-Technology Entrepreneurship  
 MGTN 944 International Management  
 MGTN 945 Pitching a Business to Venture Capitalists  
 MGTN 945W Building a Pitch Deck for Venture Capitalists – Workshop  
 MGTN 950 Project risk management  
 MGTN 951 Business Communications  
 MGTN 952 Business Ethics  
 MGTN 953 Business Law  
 MGTN 954 Advanced Project Management  
 MGTN 966 "Managing Emotions, Managing Self, and Others"  
 MISY 913 Managing Global Information Systems Projects  
 MISY 915 Management Information Systems  
 MISY 916 Human-Computer Interaction  
 MISY 918 Data Mining and Business Intelligence  
 MISY 920 Software Development Process Management  
 MISY 925 Public Information Management  
 MISY 930 Business Information Systems & Technologies  
 MKTN 950 Entrepreneurial Marketing  
 MKTN 956 Comparative Studies of MNC, FDI, and International Trade  
 MKTN 958 Marketing Management  
 MKTN 959 Advanced Marketing  
 MKTN 961 E-commerce  
 MKTN 962 Marketing with Social Media  
 MKTN 963 Advertising Strategy

MKTN 965 Supplier/Seller Management  
PMGT 910 Operation Management In Project Management  
PMGT 911 Contract Management & Financial Planning  
PMGT 912 Management Of Organizational Changes  
PMGT 913 Business Analysis & Design  
PMGT 914 Process Mapping & Control  
PMGT 920 Project Cost Management  
PMGT 925 Project Procurement Management

## **MASTER OF BUSINESS ADMINISTRATION (ENTERPRISE RESOURCES MANAGEMENT)**

### Program Requirements

2 Core Courses: 6 Units

4 Major Concentration Courses: 12 Units

6 Elective Courses: 18 Units

Internship: 3-9 Units (counts as elective)

LDP 200 and 300 (unless tested out): 6 Units Max. (counts as elective)

Cross Disciplinary Electives: Up to 3 Units

Transfer Credits: Up to 9 Units (counts as elective)

36 Total Units

### Core Courses

ACTN 900 Financial Accounting

ACTN 910 Managerial Accounting

ECON 920 Macroeconomic Theory

FINN 932 Corporate Finance

### Major Concentration Courses

ACTN 920 Cost Accounting

ACTN 925 Accounting Information Systems/ERP

ERP 901 Introduction to ERP Systems using SAP

ERP 902 ABAP - Advanced Business Application Programming

ERP 903 ERP Product Lifecycle Management (PLM)

ERP 904 BI - Business Intelligence (BI)

ERP 905 Enterprise Portal technology using NetWeaver

ERP 906 ERP CRM - Customer Relationship Management

ERP 907 Enterprise procurement processes (MM)

ERP 908 Human Resource Implementation

ERP 910 Software as a service (SAAS)

ERP 911 Security Management

ERP 912 Sales order management with ERP

ERP 913 Workflow Management

MGTN 930 Strategic Operations Management

MKTN 952 Supply Chain Management

MKTN 965 Supplier/Seller Management

### Business Courses

ACTN 921 Intermediate Accounting

ACTN 922 Forensic Accounting  
ACTN 923 Advanced Accounting  
ACTN 924 Auditing  
ACTN 926 International Accounting  
ACTN 927 Tax Accounting Principles  
ACTN 928A Payroll Accounting  
ACTN 928B Payroll Tech Accounting  
ACTN 929 Federal Personal Income Taxation  
ACTN 930 Federal Corporate Taxation  
ACTN 940 Federal Partnership Taxation  
CONS 900 Consilience Theory  
ECON 921 Microeconomics for Business Decisions  
ECON 922 Econometrics  
ECON 923 International Economics  
EDBS 901 Computer Applications in Education  
FINN 916 Securities Analysis  
FINN 917 Financial Economics  
FINN 918 Financial Institutions  
FINN 919 Advanced Financial Management  
FINN 920 Financial Derivatives and Risk Management  
FINN 921 Financial and Socially Responsible Investing  
FINN 922 Corporate Valuation  
FINN 930 Investment Management  
FINN 931 International Financial Management  
FINN 933 Managerial Finance  
FINN 934 Financial analysis and Corporate Policy  
FINN 935 Mergers and Acquisitions  
FINN 936 Behavioral Finance  
HRMG 940 Human Resource Management  
HRMG 941 Employee Training and Development  
HRMG 942 Employment law for business  
HRMG 943 Human Resource Planning  
HRMG 944 Managing Human Capital  
HRMG 945 Strategic compensation: issues and opportunities  
HRMG 946 Human Resources and Technology  
HRMG 947 Managerial Analysis & Team Dynamics  
HRMG 948 Managing Global Diversity  
INBS 910 Fundamentals of International Business  
INBS 911 International Financial Markets  
INBS 912 International Law  
INBS 913 Global Strategic Management  
INBS 914 International Monetary Economics  
INBS 915 International Human Resource Management  
INBS 916 Global Marketing and Strategy  
INBS 921 International Business Practicum  
MBAN 997 Research Methods  
MBAN 998 MBA Project  
MBAN 999 MBA Thesis  
MGTN 901 Principles of Management  
MGTN 902 Business Statistics  
MGTN 910 Managing within the Law

MGTN 915 Organizational Teamwork  
MGTN 916 Principles of Public Relations  
MGTN 917 Non-Linear Strategies for Business Success  
MGTN 920 Production and Operations Management  
MGTN 922 Quality Control Management  
MGTN 923 Lean Six Sigma  
MGTN 924 Business Continuity Planning  
MGTN 925 Impact of Intellectual Property in a Global Economy  
MGTN 935 Contracts and Purchasing Management  
MGTN 942 Critical Thinking Strategies in Decision Making  
MGTN 943 High-Technology Entrepreneurship  
MGTN 944 International Management  
MGTN 945 Pitching a Business to Venture Capitalists  
MGTN 945W Building a Pitch Deck for Venture Capitalists – Workshop  
MGTN 947 High Performance Leadership  
MGTN 948 Project Management  
MGTN 949 Organizational Theory  
MGTN 950 Project risk management  
MGTN 951 Business Communications  
MGTN 952 Business Ethics  
MGTN 953 Business Law  
MGTN 954 Advanced Project Management  
MGTN 966 Managing Emotions, Managing Self, and Others  
MISY 910 Business Database Applications  
MISY 911 Business Telecommunications  
MISY 912 Information Resource Management  
MISY 913 Managing Global Information Systems Projects  
MISY 914 Information Systems Innovation  
MISY 915 Management Information Systems  
MISY 916 Human-Computer Interaction  
MISY 917 Business Decision Support Systems  
MISY 918 Data Mining and Business Intelligence  
MISY 920 Software Development Process Management  
MISY 921 Knowledge Management  
MISY 925 Public Information Management  
MISY 926 Strategic Management of Information Technology  
MISY 930 Business Information Systems & Technologies  
MKTN 950 Entrepreneurial Marketing  
MKTN 951 Competitive Marketing Strategies  
MKTN 952 Supply Chain Management  
MKTN 953 International Marketing  
MKTN 954 Marketing Research  
MKTN 955 Strategic Application of Technology in Marketing  
MKTN 956 Comparative Studies of MNC, FDI, and International Trade  
MKTN 957 Consumer Behavior  
MKTN 958 Marketing Management  
MKTN 959 Advanced Marketing  
MKTN 960 Effective Marketing Planning In Dynamic Environments  
MKTN 961 E-commerce  
MKTN 962 Marketing with Social Media  
MKTN 963 Advertising Strategy

MKTN 964 Brand Management  
PMGT 900 Project Management Frameworks  
PMGT 901 Strategic Planning & Portfolio Management  
PMGT 902 Mastering Project Management  
PMGT 903 Technical Skills in Project Implementation  
PMGT 904 Project Management & Leadership  
PMGT 905 Project Management - Agile Approach  
PMGT 910 Operation Management In Project Management  
PMGT 911 Contract Management & Financial Planning  
PMGT 912 Management Of Organizational Changes  
PMGT 913 Business Analysis & Design  
PMGT 914 Process Mapping & Control  
PMGT 915 Quality Management in Project Execution  
PMGT 920 Project Cost Management  
PMGT 925 Project Procurement Management

## **MASTER OF BUSINESS ADMINISTRATION (FINANCE)**

### Program Requirements

2 Core Courses: 6 Units

4 Major Concentration Courses: 12 Units

6 Elective Courses: 18 Units

Internship: 3-9 Units (counts as elective)

LDP 200 and 300 (unless tested out): 6 Units Max. (counts as elective)

Cross Disciplinary Electives: Up to 3 Units

Transfer Credits: Up to 9 Units (counts as elective)

36 Total Units

### Core Courses

ACTN 900 Financial Accounting

ACTN 910 Managerial Accounting

ECON 920 Macroeconomic Theory

FINN 932 Corporate Finance

### Major Concentration Courses

FINN 916 Securities Analysis

FINN 920 Financial Derivatives and Risk Management

FINN 921 Financial and Socially Responsible Investing

FINN 930 Investment Management

FINN 933 Managerial Finance

FINN 934 Financial analysis and Corporate Policy

FINN 935 Mergers and Acquisitions

### Elective Concentration

FINN 917 Financial Economics

FINN 918 Financial Institutions

FINN 919 Advanced Financial Management

FINN 922 Corporate Valuation

FINN 931 International Financial Management

## FINN 936 Behavioral Finance

### Business Courses

ACTN 920 Cost Accounting  
ACTN 921 Intermediate Accounting  
ACTN 922 Forensic Accounting  
ACTN 923 Advanced Accounting  
ACTN 924 Auditing  
ACTN 925 Accounting Information Systems/ERP  
ACTN 926 International Accounting  
ACTN 927 Tax Accounting Principles  
ACTN 928A Payroll Accounting  
ACTN 928B Payroll Tech Accounting  
ACTN 929 Federal Personal Income Taxation  
ACTN 930 Federal Corporate Taxation  
ACTN 940 Federal Partnership Taxation  
CONS 900 Consilience Theory  
ECON 920 Macroeconomic Theory  
ECON 921 Microeconomics for Business Decisions  
ECON 922 Econometrics  
ECON 923 International Economics  
EDBS 901 Computer Applications in Education  
ERP 901 Introduction to ERP Systems using SAP  
ERP 902 ABAP - Advanced Business Application Programming  
ERP 904 BI - Business Intelligence (BI)  
ERP 905 Enterprise Portal technology using NetWeaver  
ERP 906 ERP CRM - Customer Relationship Management  
ERP 907 Enterprise procurement processes (MM)  
ERP 908 Human Resource Implementation  
ERP 910 Software as a service (SAAS)  
ERP 911 Security Management  
ERP 912 Sales order management with ERP  
ERP 913 Workflow Management  
HRMG 940 Human Resource Management  
HRMG 941 Employee Training and Development  
HRMG 942 Employment law for business  
HRMG 943 Human Resource Planning  
HRMG 944 Managing Human Capital  
HRMG 945 Strategic compensation: issues and opportunities  
HRMG 946 Human Resources and Technology  
HRMG 947 Managerial Analysis & Team Dynamics  
HRMG 948 Managing Global Diversity  
INBS 910 Fundamentals of International Business  
INBS 911 International Financial Markets  
INBS 912 International Law  
INBS 913 Global Strategic Management  
INBS 914 International Monetary Economics  
INBS 915 International Human Resource Management  
INBS 916 Global Marketing and Strategy  
INBS 921 International Business Practicum  
INMG 910 Principles of quality management



MBAN 997 Research Methods  
MBAN 998 MBA Project  
MBAN 999 MBA Thesis  
MGTN 901 Principles of Management  
MGTN 902 Business Statistics  
MGTN 910 Managing within the Law  
MGTN 915 Organizational Teamwork  
MGTN 916 Principles of Public Relations  
MGTN 917 Non-Linear Strategies for Business Success  
MGTN 920 Production and Operations Management  
MGTN 922 Quality Control Management  
MGTN 923 Lean Six Sigma  
MGTN 924 Business Continuity Planning  
MGTN 925 Impact of Intellectual Property in a Global Economy  
MGTN 930 Strategic Operations Management  
MGTN 935 Contracts and Purchasing Management  
MGTN 942 Critical Thinking Strategies in Decision Making  
MGTN 943 High-Technology Entrepreneurship  
MGTN 944 International Management  
MGTN 945 Pitching a Business to Venture Capitalists  
MGTN 945W Building a Pitch Deck for Venture Capitalists – Workshop  
MGTN 947 High Performance Leadership  
MGTN 948 Project Management  
MGTN 949 Organizational Theory  
MGTN 950 Project risk management  
MGTN 951 Business Communications  
MGTN 952 Business Ethics  
MGTN 953 Business Law  
MGTN 954 Advanced Project Management  
MGTN 966 Managing Emotions, Managing Self, and Others  
MISY 910 Business Database Applications  
MISY 911 Business Telecommunications  
MISY 912 Information Resource Management  
MISY 913 Managing Global Information Systems Projects  
MISY 914 Information Systems Innovation  
MISY 915 Management Information Systems  
MISY 916 Human-Computer Interaction  
MISY 917 Business Decision Support Systems  
MISY 918 Data Mining and Business Intelligence  
MISY 920 Software Development Process Management  
MISY 921 Knowledge Management  
MISY 925 Public Information Management  
MISY 926 Strategic Management of Information Technology  
MISY 930 Business Information Systems & Technologies  
MKTN 950 Entrepreneurial Marketing  
MKTN 951 Competitive Marketing Strategies  
MKTN 952 Supply Chain Management  
MKTN 953 International Marketing  
MKTN 954 Marketing Research  
MKTN 955 Strategic Application of Technology in Marketing  
MKTN 956 Comparative Studies of MNC, FDI, and International Trade

MKTN 957 Consumer Behavior  
MKTN 958 Marketing Management  
MKTN 959 Advanced Marketing  
MKTN 960 Effective Marketing Planning In Dynamic Environments  
MKTN 961 E-commerce  
MKTN 962 Marketing with Social Media  
MKTN 963 Advertising Strategy  
MKTN 964 Brand Management  
MKTN 965 Supplier/Seller Management  
PMGT 900 Project Management Frameworks  
PMGT 901 Strategic Planning & Portfolio Management  
PMGT 902 Mastering Project Management  
PMGT 903 Technical Skills in Project Implementation  
PMGT 904 Project Management & Leadership  
PMGT 905 Project Management - Agile Approach  
PMGT 910 Operation Management In Project Management  
PMGT 911 Contract Management & Financial Planning  
PMGT 912 Management Of Organizational Changes  
PMGT 913 Business Analysis & Design  
PMGT 914 Process Mapping & Control  
PMGT 915 Quality Management in Project Execution  
PMGT 920 Project Cost Management  
PMGT 925 Project Procurement Management

## **MASTER OF BUSINESS ADMINISTRATION (HUMAN RESOURCES MANAGEMENT)**

### Program Requirements

2 Core Courses: 6 Units

4 Major Concentration Courses: 12 Units

6 Elective Courses: 18 Units

Internship: 3-9 Units (counts as elective)

LDP 200 and 300 (unless tested out): 6 Units Max. (counts as elective)

Cross Disciplinary Electives: Up to 3 Units

Transfer Credits: Up to 9 Units (counts as elective)

36 Total Units

### Core Courses

ACTN 900 Financial Accounting

ACTN 910 Managerial Accounting

ECON 920 Macroeconomic Theory

FINN 932 Corporate Finance

### Major Concentration Courses

HRMG 940 Human Resource Management

HRMG 941 Employee Training and Development

HRMG 943 Human Resource Planning

HRMG 944 Managing Human Capital

HRMG 945 Strategic compensation: issues and opportunities

### Elective Concentration

HRMG 942 Employment law for business  
HRMG 946 Human Resources and Technology  
HRMG 947 Managerial Analysis & Team Dynamics  
HRMG 948 Managing Global Diversity

Business Elective Courses

ACTN 920 Cost Accounting  
ACTN 921 Intermediate Accounting  
ACTN 922 Forensic Accounting  
ACTN 923 Advanced Accounting  
ACTN 924 Auditing  
ACTN 925 Accounting Information Systems/ERP  
ACTN 926 International Accounting  
ACTN 927 Tax Accounting Principles  
ACTN 928A Payroll Accounting  
ACTN 928B Payroll Tech Accounting  
ACTN 929 Federal Personal Income Taxation  
ACTN 930 Federal Corporate Taxation  
ACTN 940 Federal Partnership Taxation  
CONS 900 Consilience Theory  
ECON 920 Macroeconomic Theory  
ECON 921 Microeconomics for Business Decisions  
ECON 922 Econometrics  
ECON 923 International Economics  
EDBS 901 Computer Applications in Education  
ERP 901 Introduction to ERP Systems using SAP  
ERP 902 ABAP - Advanced Business Application Programming  
ERP 904 BI - Business Intelligence (BI)  
ERP 905 Enterprise Portal technology using NetWeaver  
ERP 906 ERP CRM - Customer Relationship Management  
ERP 907 Enterprise procurement processes (MM)  
ERP 908 Human Resource Implementation  
ERP 910 Software as a service (SAAS)  
ERP 911 Security Management  
ERP 912 Sales order management with ERP  
ERP 913 Workflow Management  
FINN 916 Securities Analysis  
FINN 917 Financial Economics  
FINN 918 Financial Institutions  
FINN 919 Advanced Financial Management  
FINN 920 Financial Derivatives and Risk Management  
FINN 921 Financial and Socially Responsible Investing  
FINN 922 Corporate Valuation  
FINN 930 Investment Management  
FINN 931 International Financial Management  
FINN 932 Corporate Finance  
FINN 934 Financial analysis and Corporate Policy  
FINN 935 Mergers and Acquisitions  
FINN 936 Behavioral Finance  
INBS 910 Fundamentals of International Business  
INBS 911 International Financial Markets

INBS 912 International Law  
INBS 913 Global Strategic Management  
INBS 914 International Monetary Economics  
INBS 915 International Human Resource Management  
INBS 916 Global Marketing and Strategy  
INBS 921 International Business Practicum  
INMG 910 Principles of quality management  
MBAN 997 Research Methods  
MBAN 998 MBA Project  
MBAN 999 MBA Thesis  
MGTN 901 Principles of Management  
MGTN 902 Business Statistics  
MGTN 910 Managing within the Law  
MGTN 915 Organizational Teamwork  
MGTN 916 Principles of Public Relations  
MGTN 917 Non-Linear Strategies for Business Success  
MGTN 920 Production and Operations Management  
MGTN 922 Quality Control Management  
MGTN 923 Lean Six Sigma  
MGTN 924 Business Continuity Planning  
MGTN 925 Impact of Intellectual Property in a Global Economy  
MGTN 930 Strategic Operations Management  
MGTN 935 Contracts and Purchasing Management  
MGTN 942 Critical Thinking Strategies in Decision Making  
MGTN 943 High-Technology Entrepreneurship  
MGTN 944 International Management  
MGTN 945 Pitching a Business to Venture Capitalists  
MGTN 945W Building a Pitch Deck for Venture Capitalists – Workshop  
MGTN 947 High Performance Leadership  
MGTN 948 Project Management  
MGTN 949 Organizational Theory  
MGTN 950 Project risk management  
MGTN 951 Business Communications  
MGTN 952 Business Ethics  
MGTN 953 Business Law  
MGTN 954 Advanced Project Management  
MGTN 966 Managing Emotions, Managing Self, and Others  
MISY 910 Business Database Applications  
MISY 911 Business Telecommunications  
MISY 912 Information Resource Management  
MISY 913 Managing Global Information Systems Projects  
MISY 914 Information Systems Innovation  
MISY 915 Management Information Systems  
MISY 916 Human-Computer Interaction  
MISY 917 Business Decision Support Systems  
MISY 918 Data Mining and Business Intelligence  
MISY 920 Software Development Process Management  
MISY 921 Knowledge Management  
MISY 925 Public Information Management  
MISY 926 Strategic Management of Information Technology  
MISY 930 Business Information Systems & Technologies

MKTN 950 Entrepreneurial Marketing  
MKTN 951 Competitive Marketing Strategies  
MKTN 952 Supply Chain Management  
MKTN 953 International Marketing  
MKTN 954 Marketing Research  
MKTN 955 Strategic Application of Technology in Marketing  
MKTN 956 Comparative Studies of MNC, FDI, and International Trade  
MKTN 957 Consumer Behavior  
MKTN 958 Marketing Management  
MKTN 959 Advanced Marketing  
MKTN 960 Effective Marketing Planning In Dynamic Environments  
MKTN 961 E-commerce  
MKTN 962 Marketing with Social Media  
MKTN 963 Advertising Strategy  
MKTN 964 Brand Management  
MKTN 965 Supplier/Seller Management  
PMGT 900 Project Management Frameworks  
PMGT 901 Strategic Planning & Portfolio Management  
PMGT 902 Mastering Project Management  
PMGT 903 Technical Skills in Project Implementation  
PMGT 904 Project Management & Leadership  
PMGT 905 Project Management - Agile Approach  
PMGT 910 Operation Management In Project Management  
PMGT 911 Contract Management & Financial Planning  
PMGT 912 Management Of Organizational Changes  
PMGT 913 Business Analysis & Design  
PMGT 914 Process Mapping & Control  
PMGT 915 Quality Management in Project Execution  
PMGT 920 Project Cost Management  
PMGT 925 Project Procurement Management

## **MASTER OF BUSINESS ADMINISTRATION (INTERNATIONAL BUSINESS)**

### Program Requirements

2 Core Courses: 6 Units

4 Major Concentration Courses: 12 Units

6 Elective Courses: 18 Units

Internship: 3-9 Units (counts as elective)

LDP 200 and 300 (unless tested out): 6 Units Max. (counts as elective)

Cross Disciplinary Electives: Up to 3 Units

Transfer Credits: Up to 9 Units (counts as elective)

36 Total Units

### Core Courses

ACTN 900 Financial Accounting

ACTN 910 Managerial Accounting

ECON 920 Macroeconomic Theory

FINN 932 Corporate Finance

### Major Concentration Courses

INBS 910 Fundamentals of International Business  
INBS 911 International Financial Markets  
INBS 912 International Law  
INBS 915 International Human Resource Management  
INBS 916 Global Marketing and Strategy

Elective Concentration

INBS 913 Global Strategic Management  
INBS 914 International Monetary Economics  
INBS 921 International Business Practicum

Business Elective Courses

ACTN 920 Cost Accounting  
ACTN 921 Intermediate Accounting  
ACTN 922 Forensic Accounting  
ACTN 923 Advanced Accounting  
ACTN 924 Auditing  
ACTN 925 Accounting Information Systems/ERP  
ACTN 926 International Accounting  
ACTN 927 Tax Accounting Principles  
ACTN 928A Payroll Accounting  
ACTN 928B Payroll Tech Accounting  
ACTN 929 Federal Personal Income Taxation  
ACTN 930 Federal Corporate Taxation  
ACTN 940 Federal Partnership Taxation  
CONS 900 Consilience Theory  
ECON 921 Microeconomics for Business Decisions  
ECON 922 Econometrics  
ECON 923 International Economics  
EDBS 901 Computer Applications in Education  
ERP 901 Introduction to ERP Systems using SAP  
ERP 902 ABAP - Advanced Business Application Programming  
ERP 903 ERP Product Lifecycle Management (PLM)  
ERP 904 BI - Business Intelligence (BI)  
ERP 905 Enterprise Portal technology using NetWeaver  
ERP 906 ERP CRM - Customer Relationship Management  
ERP 907 Enterprise procurement processes (MM)  
ERP 908 Human Resource Implementation  
ERP 910 Software as a service (SAAS)  
ERP 911 Security Management  
ERP 912 Sales order management with ERP  
ERP 913 Workflow Management  
FINN 916 Securities Analysis  
FINN 917 Financial Economics  
FINN 918 Financial Institutions  
FINN 919 Advanced Financial Management  
FINN 920 Financial Derivatives and Risk Management  
FINN 921 Financial and Socially Responsible Investing  
FINN 922 Corporate Valuation  
FINN 930 Investment Management

FINN 931 International Financial Management  
FINN 932 Corporate Finance  
FINN 933 Managerial Finance  
FINN 934 Financial analysis and Corporate Policy  
FINN 935 Mergers and Acquisitions  
FINN 936 Behavioral Finance  
HRMG 940 Human Resource Management  
HRMG 941 Employee Training and Development  
HRMG 942 Employment law for business  
HRMG 943 Human Resource Planning  
HRMG 944 Managing Human Capital  
HRMG 945 Strategic compensation: issues and opportunities  
HRMG 946 Human Resources and Technology  
HRMG 947 Managerial Analysis & Team Dynamics  
HRMG 948 Managing Global Diversity  
MBAN 997 Research Methods  
MBAN 998 MBA Project  
MBAN 999 MBA Thesis  
MGTN 901 Principles of Management  
MGTN 902 Business Statistics  
MGTN 910 Managing within the Law  
MGTN 915 Organizational Teamwork  
MGTN 916 Principles of Public Relations  
MGTN 917 Non-Linear Strategies for Business Success  
MGTN 920 Production and Operations Management  
MGTN 922 Quality Control Management  
MGTN 923 Lean Six Sigma  
MGTN 924 Business Continuity Planning  
MGTN 925 Impact of Intellectual Property in a Global Economy  
MGTN 930 Strategic Operations Management  
MGTN 935 Contracts and Purchasing Management  
MGTN 942 Critical Thinking Strategies in Decision Making  
MGTN 943 High-Technology Entrepreneurship  
MGTN 944 International Management  
MGTN 945 Pitching a Business to Venture Capitalists  
MGTN 945W Building a Pitch Deck for Venture Capitalists – Workshop  
MGTN 947 High Performance Leadership  
MGTN 948 Project Management  
MGTN 949 Organizational Theory  
MGTN 950 Project risk management  
MGTN 951 Business Communications  
MGTN 952 Business Ethics  
MGTN 953 Business Law  
MGTN 954 Advanced Project Management  
MGTN 966 Managing Emotions, Managing Self, and Others  
MISY 910 Business Database Applications  
MISY 911 Business Telecommunications  
MISY 912 Information Resource Management  
MISY 913 Managing Global Information Systems Projects  
MISY 914 Information Systems Innovation  
MISY 915 Management Information Systems

MISY 916 Human-Computer Interaction  
 MISY 917 Business Decision Support Systems  
 MISY 918 Data Mining and Business Intelligence  
 MISY 920 Software Development Process Management  
 MISY 921 Knowledge Management  
 MISY 925 Public Information Management  
 MISY 926 Strategic Management of Information Technology  
 MISY 930 Business Information Systems & Technologies  
 MKTN 950 Entrepreneurial Marketing  
 MKTN 951 Competitive Marketing Strategies  
 MKTN 952 Supply Chain Management  
 MKTN 953 International Marketing  
 MKTN 954 Marketing Research  
 MKTN 955 Strategic Application of Technology in Marketing  
 MKTN 956 Comparative Studies of MNC, FDI, and International Trade  
 MKTN 957 Consumer Behavior  
 MKTN 958 Marketing Management  
 MKTN 959 Advanced Marketing  
 MKTN 960 Effective Marketing Planning In Dynamic Environments  
 MKTN 961 E-commerce  
 MKTN 962 Marketing with Social Media  
 MKTN 963 Advertising Strategy  
 MKTN 964 Brand Management  
 MKTN 965 Supplier/Seller Management  
 PMGT 900 Project Management Frameworks  
 PMGT 901 Strategic Planning & Portfolio Management  
 PMGT 902 Mastering Project Management  
 PMGT 903 Technical Skills in Project Implementation  
 PMGT 904 Project Management & Leadership  
 PMGT 905 Project Management - Agile Approach  
 PMGT 910 Operation Management In Project Management  
 PMGT 911 Contract Management & Financial Planning  
 PMGT 912 Management Of Organizational Changes  
 PMGT 913 Business Analysis & Design  
 PMGT 914 Process Mapping & Control  
 PMGT 915 Quality Management in Project Execution  
 PMGT 920 Project Cost Management  
 PMGT 925 Project Procurement Management

## **MASTER OF BUSINESS ADMINISTRATION (MANAGEMENT OF INFORMATION SYSTEMS)**

### Program Requirements

2 Core Courses: 6 Units

4 Major Concentration Courses: 12 Units

6 Elective Courses: 18 Units

Internship: 3-9 Units (counts as elective)

LDP 200 and 300 (unless tested out): 6 Units Max. (counts as elective)

Cross Disciplinary Electives: Up to 3 Units



Transfer Credits: Up to 9 Units (counts as elective)  
36 Total Units

Core Courses

ACTN 900 Financial Accounting  
ACTN 910 Managerial Accounting  
ECON 920 Macroeconomic Theory  
FINN 932 Corporate Finance

Major Concentration Courses

MISY 910 Business Database Applications  
MISY 911 Business Telecommunications  
MISY 912 Information Resource Management  
MISY 914 Information Systems Innovation  
MISY 915 Management Information Systems  
MISY 916 Human-Computer Interaction  
MISY 917 Business Decision Support Systems  
MISY 921 Knowledge Management  
MISY 926 Strategic Management of Information Technology

Elective Concentration

MISY 913 Managing Global Information Systems Projects  
MISY 918 Data Mining and Business Intelligence  
MISY 920 Software Development Process Management  
MISY 925 Public Information Management  
MISY 930 Business Information Systems & Technologies

Business Elective Courses

ACTN 920 Cost Accounting  
ACTN 921 Intermediate Accounting  
ACTN 922 Forensic Accounting  
ACTN 923 Advanced Accounting  
ACTN 924 Auditing  
ACTN 925 Accounting Information Systems/ERP  
ACTN 926 International Accounting  
ACTN 927 Tax Accounting Principles  
ACTN 928A Payroll Accounting  
ACTN 928B Payroll Tech Accounting  
ACTN 929 Federal Personal Income Taxation  
ACTN 930 Federal Corporate Taxation  
ACTN 940 Federal Partnership Taxation  
CONS 900 Consilience Theory  
ECON 921 Microeconomics for Business Decisions  
ECON 922 Econometrics  
ECON 923 International Economics  
EDBS 901 Computer Applications in Education  
ERP 901 Introduction to ERP Systems using SAP  
ERP 902 ABAP - Advanced Business Application Programming  
ERP 903 ERP Product Lifecycle Management (PLM)  
ERP 904 BI - Business Intelligence (BI)  
ERP 905 Enterprise Portal technology using NetWeaver

ERP 906 ERP CRM - Customer Relationship Management  
ERP 907 Enterprise procurement processes (MM)  
ERP 908 Human Resource Implementation  
ERP 910 Software as a service (SAAS)  
ERP 911 Security Management  
ERP 912 Sales order management with ERP  
ERP 913 Workflow Management  
FINN 916 Securities Analysis  
FINN 917 Financial Economics  
FINN 918 Financial Institutions  
FINN 919 Advanced Financial Management  
FINN 920 Financial Derivatives and Risk Management  
FINN 921 Financial and Socially Responsible Investing  
FINN 922 Corporate Valuation  
FINN 930 Investment Management  
FINN 931 International Financial Management  
FINN 933 Managerial Finance  
FINN 934 Financial analysis and Corporate Policy  
FINN 935 Mergers and Acquisitions  
FINN 936 Behavioral Finance  
HRMG 940 Human Resource Management  
HRMG 941 Employee Training and Development  
HRMG 942 Employment law for business  
HRMG 943 Human Resource Planning  
HRMG 944 Managing Human Capital  
HRMG 945 Strategic compensation: issues and opportunities  
HRMG 946 Human Resources and Technology  
HRMG 947 Managerial Analysis & Team Dynamics  
HRMG 948 Managing Global Diversity  
INBS 910 Fundamentals of International Business  
INBS 911 International Financial Markets  
INBS 912 International Law  
INBS 913 Global Strategic Management  
INBS 914 International Monetary Economics  
INBS 915 International Human Resource Management  
INBS 916 Global Marketing and Strategy  
INBS 921 International Business Practicum  
MBAN 997 Research Methods  
MBAN 998 MBA Project  
MBAN 999 MBA Thesis  
MGTN 901 Principles of Management  
MGTN 902 Business Statistics  
MGTN 910 Managing within the Law  
MGTN 915 Organizational Teamwork  
MGTN 916 Principles of Public Relations  
MGTN 917 Non-Linear Strategies for Business Success  
MGTN 920 Production and Operations Management  
MGTN 922 Quality Control Management  
MGTN 923 Lean Six Sigma  
MGTN 924 Business Continuity Planning  
MGTN 925 Impact of Intellectual Property in a Global Economy

MGTN 930 Strategic Operations Management  
MGTN 935 Contracts and Purchasing Management  
MGTN 942 Critical Thinking Strategies in Decision Making  
MGTN 943 High-Technology Entrepreneurship  
MGTN 944 International Management  
MGTN 945 Pitching a Business to Venture Capitalists  
MGTN 945W Building a Pitch Deck for Venture Capitalists – Workshop  
MGTN 947 High Performance Leadership  
MGTN 948 Project Management  
MGTN 949 Organizational Theory  
MGTN 950 Project risk management  
MGTN 951 Business Communications  
MGTN 952 Business Ethics  
MGTN 953 Business Law  
MGTN 954 Advanced Project Management  
MGTN 966 Managing Emotions, Managing Self, and Others  
MKTN 950 Entrepreneurial Marketing  
MKTN 951 Competitive Marketing Strategies  
MKTN 952 Supply Chain Management  
MKTN 953 International Marketing  
MKTN 954 Marketing Research  
MKTN 955 Strategic Application of Technology in Marketing  
MKTN 956 Comparative Studies of MNC, FDI, and International Trade  
MKTN 957 Consumer Behavior  
MKTN 958 Marketing Management  
MKTN 959 Advanced Marketing  
MKTN 960 Effective Marketing Planning In Dynamic Environments  
MKTN 961 E-commerce  
MKTN 962 Marketing with Social Media  
MKTN 963 Advertising Strategy  
MKTN 964 Brand Management  
MKTN 965 Supplier/Seller Management  
PMGT 900 Project Management Frameworks  
PMGT 901 Strategic Planning & Portfolio Management  
PMGT 902 Mastering Project Management  
PMGT 903 Technical Skills in Project Implementation  
PMGT 904 Project Management & Leadership  
PMGT 905 Project Management - Agile Approach  
PMGT 910 Operation Management In Project Management  
PMGT 911 Contract Management & Financial Planning  
PMGT 912 Management Of Organizational Changes  
PMGT 913 Business Analysis & Design  
PMGT 914 Process Mapping & Control  
PMGT 915 Quality Management in Project Execution  
PMGT 920 Project Cost Management  
PMGT 925 Project Procurement Management

## **MASTER OF BUSINESS ADMINISTRATION (MANAGEMENT)**

### Program Requirements

2 Core Courses: 6 Units

4 Major Concentration Courses: 12 Units

6 Elective Courses: 18 Units

Internship: 3-9 Units (counts as elective)

LDP 200 and 300 (unless tested out): 6 Units Max. (counts as elective)

Cross Disciplinary Electives: Up to 3 Units

Transfer Credits: Up to 9 Units (counts as elective)

36 Total Units

### Core Courses

ACTN 900 Financial Accounting

ACTN 910 Managerial Accounting

ECON 920 Macroeconomic Theory

FINN 932 Corporate Finance

### Major Concentration Courses

MGTN 901 Principles of Management

MGTN 902 Business Statistics

MGTN 944 International Management

MGTN 948 Project Management

MGTN 949 Organizational Theory

### Elective Concentration

MGTN 910 Managing within the Law

MGTN 915 Organizational Teamwork

MGTN 916 Principles of Public Relations

MGTN 917 Non-Linear Strategies for Business Success

MGTN 920 Production and Operations Management

MGTN 922 Quality Control Management

MGTN 923 Lean Six Sigma

MGTN 924 Business Continuity Planning

MGTN 925 Impact of Intellectual Property in a Global Economy

MGTN 930 Strategic Operations Management

MGTN 935 Contracts and Purchasing Management

MGTN 942 Critical Thinking Strategies in Decision Making

MGTN 943 High-Technology Entrepreneurship

MGTN 945 Pitching a Business to Venture Capitalists

MGTN 945W Building a Pitch Deck for Venture Capitalists – Workshop

MGTN 947 High Performance Leadership

MGTN 950 Project risk management

MGTN 951 Business Communications

MGTN 952 Business Ethics

MGTN 953 Business Law

MGTN 954 Advanced Project Management

MGTN 966 Managing Emotions, Managing Self, and Others

### Business Elective Courses

ACTN 920 Cost Accounting  
ACTN 921 Intermediate Accounting  
ACTN 922 Forensic Accounting  
ACTN 923 Advanced Accounting  
ACTN 924 Auditing  
ACTN 925 Accounting Information Systems/ERP  
ACTN 926 International Accounting  
ACTN 927 Tax Accounting Principles  
ACTN 928A Payroll Accounting  
ACTN 928B Payroll Tech Accounting  
ACTN 929 Federal Personal Income Taxation  
ACTN 930 Federal Corporate Taxation  
ACTN 940 Federal Partnership Taxation  
CONS 900 Consilience Theory  
ECON 921 Microeconomics for Business Decisions  
ECON 922 Econometrics  
ECON 923 International Economics  
EDBS 901 Computer Applications in Education  
ERP 901 Introduction to ERP Systems using SAP  
ERP 902 ABAP - Advanced Business Application Programming  
ERP 903 ERP Product Lifecycle Management (PLM)  
ERP 904 BI - Business Intelligence (BI)  
ERP 905 Enterprise Portal technology using NetWeaver  
ERP 906 ERP CRM - Customer Relationship Management  
ERP 907 Enterprise procurement processes (MM)  
ERP 908 Human Resource Implementation  
ERP 910 Software as a service (SAAS)  
ERP 911 Security Management  
ERP 912 Sales order management with ERP  
ERP 913 Workflow Management  
FINN 916 Securities Analysis  
FINN 917 Financial Economics  
FINN 918 Financial Institutions  
FINN 919 Advanced Financial Management  
FINN 920 Financial Derivatives and Risk Management  
FINN 921 Financial and Socially Responsible Investing  
FINN 922 Corporate Valuation  
FINN 930 Investment Management  
FINN 931 International Financial Management  
FINN 933 Managerial Finance  
FINN 934 Financial analysis and Corporate Policy  
FINN 935 Mergers and Acquisitions  
FINN 936 Behavioral Finance  
HRMG 940 Human Resource Management  
HRMG 941 Employee Training and Development  
HRMG 942 Employment law for business  
HRMG 943 Human Resource Planning  
HRMG 944 Managing Human Capital  
HRMG 945 Strategic compensation: issues and opportunities  
HRMG 946 Human Resources and Technology  
HRMG 947 Managerial Analysis & Team Dynamics

HRMG 948 Managing Global Diversity  
INBS 910 Fundamentals of International Business  
INBS 911 International Financial Markets  
INBS 912 International Law  
INBS 913 Global Strategic Management  
INBS 914 International Monetary Economics  
INBS 915 International Human Resource Management  
INBS 916 Global Marketing and Strategy  
INBS 921 International Business Practicum  
MBAN 997 Research Methods  
MBAN 998 MBA Project  
MBAN 999 MBA Thesis  
MISY 910 Business Database Applications  
MISY 911 Business Telecommunications  
MISY 912 Information Resource Management  
MISY 913 Managing Global Information Systems Projects  
MISY 914 Information Systems Innovation  
MISY 915 Management Information Systems  
MISY 916 Human-Computer Interaction  
MISY 917 Business Decision Support Systems  
MISY 918 Data Mining and Business Intelligence  
MISY 920 Software Development Process Management  
MISY 921 Knowledge Management  
MISY 925 Public Information Management  
MISY 926 Strategic Management of Information Technology  
MISY 930 Business Information Systems & Technologies  
MKTN 950 Entrepreneurial Marketing  
MKTN 951 Competitive Marketing Strategies  
MKTN 952 Supply Chain Management  
MKTN 953 International Marketing  
MKTN 954 Marketing Research  
MKTN 955 Strategic Application of Technology in Marketing  
MKTN 956 Comparative Studies of MNC, FDI, and International Trade  
MKTN 957 Consumer Behavior  
MKTN 958 Marketing Management  
MKTN 959 Advanced Marketing  
MKTN 960 Effective Marketing Planning In Dynamic Environments  
MKTN 961 E-commerce  
MKTN 962 Marketing with Social Media  
MKTN 963 Advertising Strategy  
MKTN 964 Brand Management  
MKTN 965 Supplier/Seller Management  
PMGT 900 Project Management Frameworks  
PMGT 901 Strategic Planning & Portfolio Management  
PMGT 902 Mastering Project Management  
PMGT 903 Technical Skills in Project Implementation  
PMGT 904 Project Management & Leadership  
PMGT 905 Project Management - Agile Approach  
PMGT 910 Operation Management In Project Management  
PMGT 911 Contract Management & Financial Planning  
PMGT 912 Management Of Organizational Changes

PMGT 913 Business Analysis & Design  
PMGT 914 Process Mapping & Control  
PMGT 915 Quality Management in Project Execution  
PMGT 920 Project Cost Management  
PMGT 925 Project Procurement Management

## **MASTER OF BUSINESS ADMINISTRATION (MARKETING)**

### Program Requirements

2 Core Courses: 6 Units

4 Major Concentration Courses: 12 Units

6 Elective Courses: 18 Units

Internship: 3-9 Units (counts as elective)

LDP 200 and 300 (unless tested out): 6 Units Max. (counts as elective)

Cross Disciplinary Electives: Up to 3 Units

Transfer Credits: Up to 9 Units (counts as elective)

36 Total Units

### Core Courses

ACTN 900 Financial Accounting

ACTN 910 Managerial Accounting

ECON 920 Macroeconomic Theory

FINN 932 Corporate Finance

### Major Concentration Courses

#### Elective Concentration

MISY 918 Data Mining and Business Intelligence

MISY 920 Software Development Process Management

MISY 925 Public Information Management

MISY 930 Business Information Systems & Technologies

MISY 910 Business Database Applications

MISY 911 Business Telecommunications

MISY 912 Information Resource Management

MISY 913 Managing Global Information Systems Projects

MISY 914 Information Systems Innovation

MISY 915 Management Information Systems

MISY 916 Human-Computer Interaction

MISY 917 Business Decision Support Systems

MISY 921 Knowledge Management

MISY 926 Strategic Management of Information Technology

#### Business Elective Courses

ACTN 920 Cost Accounting

ACTN 921 Intermediate Accounting

ACTN 922 Forensic Accounting

ACTN 923 Advanced Accounting

ACTN 924 Auditing

ACTN 925 Accounting Information Systems/ERP

ACTN 926 International Accounting

ACTN 927 Tax Accounting Principles  
ACTN 928A Payroll Accounting  
ACTN 928B Payroll Tech Accounting  
ACTN 929 Federal Personal Income Taxation  
ACTN 930 Federal Corporate Taxation  
ACTN 940 Federal Partnership Taxation  
CONS 900 Consilience Theory  
ECON 921 Microeconomics for Business Decisions  
ECON 922 Econometrics  
ECON 923 International Economics  
EDBS 901 Computer Applications in Education  
ERP 901 Introduction to ERP Systems using SAP  
ERP 902 ABAP - Advanced Business Application Programming  
ERP 903 ERP Product Lifecycle Management (PLM)  
ERP 904 BI - Business Intelligence (BI)  
ERP 905 Enterprise Portal technology using NetWeaver  
ERP 906 ERP CRM - Customer Relationship Management  
ERP 907 Enterprise procurement processes (MM)  
ERP 908 Human Resource Implementation  
ERP 910 Software as a service (SAAS)  
ERP 911 Security Management  
ERP 912 Sales order management with ERP  
ERP 913 Workflow Management  
FINN 916 Securities Analysis  
FINN 917 Financial Economics  
FINN 918 Financial Institutions  
FINN 919 Advanced Financial Management  
FINN 920 Financial Derivatives and Risk Management  
FINN 921 Financial and Socially Responsible Investing  
FINN 922 Corporate Valuation  
FINN 930 Investment Management  
FINN 931 International Financial Management  
FINN 933 Managerial Finance  
FINN 934 Financial analysis and Corporate Policy  
FINN 935 Mergers and Acquisitions  
FINN 936 Behavioral Finance  
HRMG 940 Human Resource Management  
HRMG 941 Employee Training and Development  
HRMG 942 Employment law for business  
HRMG 943 Human Resource Planning  
HRMG 944 Managing Human Capital  
HRMG 945 Strategic compensation: issues and opportunities  
HRMG 946 Human Resources and Technology  
HRMG 947 Managerial Analysis & Team Dynamics  
HRMG 948 Managing Global Diversity  
INBS 910 Fundamentals of International Business  
INBS 911 International Financial Markets  
INBS 912 International Law  
INBS 913 Global Strategic Management  
INBS 914 International Monetary Economics  
INBS 915 International Human Resource Management



INBS 916 Global Marketing and Strategy  
INBS 921 International Business Practicum  
MBAN 997 Research Methods  
MBAN 998 MBA Project  
MBAN 999 MBA Thesis  
MGTN 901 Principles of Management  
MGTN 902 Business Statistics  
MGTN 910 Managing within the Law  
MGTN 915 Organizational Teamwork  
MGTN 916 Principles of Public Relations  
MGTN 917 Non-Linear Strategies for Business Success  
MGTN 920 Production and Operations Management  
MGTN 922 Quality Control Management  
MGTN 923 Lean Six Sigma  
MGTN 924 Business Continuity Planning  
MGTN 925 Impact of Intellectual Property in a Global Economy  
MGTN 930 Strategic Operations Management  
MGTN 935 Contracts and Purchasing Management  
MGTN 942 Critical Thinking Strategies in Decision Making  
MGTN 943 High-Technology Entrepreneurship  
MGTN 944 International Management  
MGTN 945 Pitching a Business to Venture Capitalists  
MGTN 945W Building a Pitch Deck for Venture Capitalists – Workshop  
MGTN 947 High Performance Leadership  
MGTN 948 Project Management  
MGTN 949 Organizational Theory  
MGTN 950 Project risk management  
MGTN 951 Business Communications  
MGTN 952 Business Ethics  
MGTN 953 Business Law  
MGTN 954 Advanced Project Management  
MGTN 966 Managing Emotions, Managing Self, and Others  
MKTN 950 Entrepreneurial Marketing  
MKTN 951 Competitive Marketing Strategies  
MKTN 952 Supply Chain Management  
MKTN 953 International Marketing  
MKTN 954 Marketing Research  
MKTN 955 Strategic Application of Technology in Marketing  
MKTN 956 Comparative Studies of MNC, FDI, and International Trade  
MKTN 957 Consumer Behavior  
MKTN 958 Marketing Management  
MKTN 959 Advanced Marketing  
MKTN 960 Effective Marketing Planning In Dynamic Environments  
MKTN 961 E-commerce  
MKTN 962 Marketing with Social Media  
MKTN 963 Advertising Strategy  
MKTN 964 Brand Management  
MKTN 965 Supplier/Seller Management  
PMGT 900 Project Management Frameworks  
PMGT 901 Strategic Planning & Portfolio Management  
PMGT 902 Mastering Project Management

PMGT 903 Technical Skills in Project Implementation  
PMGT 904 Project Management & Leadership  
PMGT 905 Project Management - Agile Approach  
PMGT 910 Operation Management In Project Management  
PMGT 911 Contract Management & Financial Planning  
PMGT 912 Management Of Organizational Changes  
PMGT 913 Business Analysis & Design  
PMGT 914 Process Mapping & Control  
PMGT 915 Quality Management in Project Execution  
PMGT 920 Project Cost Management  
PMGT 925 Project Procurement Management

## **MASTER OF BUSINESS ADMINISTRATION (PROJECT MANAGEMENT)**

### Core Courses

ACTN 900 Financial Accounting  
ACTN 910 Managerial Accounting  
ECON 920 Macroeconomic Theory  
FINN 932 Corporate Finance

### Major Concentration Courses

MGTN 948 Project Management  
MGTN 950 Project risk management  
PMGT 900 Project Management Frameworks  
PMGT 901 Strategic Planning & Portfolio Management  
PMGT 902 Mastering Project Management  
PMGT 903 Technical Skills in Project Implementation  
PMGT 904 Project Management & Leadership  
PMGT 905 Project Management - Agile Approach  
PMGT 915 Quality Management in Project Execution

### Elective Concentration

PMGT 910 Operation Management In Project Management  
PMGT 911 Contract Management & Financial Planning  
PMGT 912 Management Of Organizational Changes  
PMGT 913 Business Analysis & Design  
PMGT 914 Process Mapping & Control  
PMGT 920 Project Cost Management  
PMGT 925 Project Procurement Management

### Business Elective Courses

ACTN 920 Cost Accounting  
ACTN 921 Intermediate Accounting  
ACTN 922 Forensic Accounting  
ACTN 923 Advanced Accounting  
ACTN 924 Auditing  
ACTN 925 Accounting Information Systems/ERP  
ACTN 926 International Accounting  
ACTN 927 Tax Accounting Principles  
ACTN 928A Payroll Accounting

ACTN 928B Payroll Tech Accounting  
ACTN 929 Federal Personal Income Taxation  
ACTN 930 Federal Corporate Taxation  
ACTN 940 Federal Partnership Taxation  
CONS 900 Consilience Theory  
ECON 921 Microeconomics for Business Decisions  
ECON 922 Econometrics  
ECON 923 International Economics  
EDBS 901 Computer Applications in Education  
ERP 901 Introduction to ERP Systems using SAP  
ERP 902 ABAP - Advanced Business Application Programming  
ERP 903 ERP Product Lifecycle Management (PLM)  
ERP 904 BI - Business Intelligence (BI)  
ERP 905 Enterprise Portal technology using NetWeaver  
ERP 906 ERP CRM - Customer Relationship Management  
ERP 907 Enterprise procurement processes (MM)  
ERP 908 Human Resource Implementation  
ERP 910 Software as a service (SAAS)  
ERP 911 Security Management  
ERP 912 Sales order management with ERP  
ERP 913 Workflow Management  
FINN 916 Securities Analysis  
FINN 917 Financial Economics  
FINN 918 Financial Institutions  
FINN 919 Advanced Financial Management  
FINN 920 Financial Derivatives and Risk Management  
FINN 921 Financial and Socially Responsible Investing  
FINN 922 Corporate Valuation  
FINN 930 Investment Management  
FINN 931 International Financial Management  
FINN 933 Managerial Finance  
FINN 934 Financial analysis and Corporate Policy  
FINN 935 Mergers and Acquisitions  
FINN 936 Behavioral Finance  
HRMG 940 Human Resource Management  
HRMG 941 Employee Training and Development  
HRMG 942 Employment law for business  
HRMG 943 Human Resource Planning  
HRMG 944 Managing Human Capital  
HRMG 945 Strategic compensation: issues and opportunities  
HRMG 946 Human Resources and Technology  
HRMG 947 Managerial Analysis & Team Dynamics  
HRMG 948 Managing Global Diversity  
INBS 910 Fundamentals of International Business  
INBS 911 International Financial Markets  
INBS 912 International Law  
INBS 913 Global Strategic Management  
INBS 914 International Monetary Economics  
INBS 915 International Human Resource Management  
INBS 916 Global Marketing and Strategy  
INBS 921 International Business Practicum

MBAN 997 Research Methods  
MBAN 998 MBA Project  
MBAN 999 MBA Thesis  
MGTN 901 Principles of Management  
MGTN 902 Business Statistics  
MGTN 910 Managing within the Law  
MGTN 915 Organizational Teamwork  
MGTN 916 Principles of Public Relations  
MGTN 917 Non-Linear Strategies for Business Success  
MGTN 920 Production and Operations Management  
MGTN 922 Quality Control Management  
MGTN 923 Lean Six Sigma  
MGTN 924 Business Continuity Planning  
MGTN 925 Impact of Intellectual Property in a Global Economy  
MGTN 930 Strategic Operations Management  
MGTN 935 Contracts and Purchasing Management  
MGTN 942 Critical Thinking Strategies in Decision Making  
MGTN 943 High-Technology Entrepreneurship  
MGTN 944 International Management  
MGTN 945 Pitching a Business to Venture Capitalists  
MGTN 945W Building a Pitch Deck for Venture Capitalists – Workshop  
MGTN 947 High Performance Leadership  
MGTN 949 Organizational Theory  
MGTN 951 Business Communications  
MGTN 952 Business Ethics  
MGTN 953 Business Law  
MGTN 954 Advanced Project Management  
MGTN 966 Managing Emotions, Managing Self, and Others  
MISY 910 Business Database Applications  
MISY 911 Business Telecommunications  
MISY 912 Information Resource Management  
MISY 913 Managing Global Information Systems Projects  
MISY 914 Information Systems Innovation  
MISY 915 Management Information Systems  
MISY 916 Human-Computer Interaction  
MISY 917 Business Decision Support Systems  
MISY 918 Data Mining and Business Intelligence  
MISY 920 Software Development Process Management  
MISY 921 Knowledge Management  
MISY 925 Public Information Management  
MISY 926 Strategic Management of Information Technology  
MISY 930 Business Information Systems & Technologies  
MKTN 950 Entrepreneurial Marketing  
MKTN 951 Competitive Marketing Strategies  
MKTN 952 Supply Chain Management  
MKTN 953 International Marketing  
MKTN 954 Marketing Research  
MKTN 955 Strategic Application of Technology in Marketing  
MKTN 956 Comparative Studies of MNC, FDI, and International Trade  
MKTN 957 Consumer Behavior  
MKTN 958 Marketing Management

MKTN 959 Advanced Marketing  
MKTN 960 Effective Marketing Planning In Dynamic Environments  
MKTN 961 E-commerce  
MKTN 962 Marketing with Social Media  
MKTN 963 Advertising Strategy  
MKTN 964 Brand Management  
MKTN 965 Supplier/Seller Management

## **DOCTORATE OF BUSINESS ADMINISTRATION**

The degree of Doctorate of Business Administration (DBA), offered by the International Technological University (ITU), is a research doctorate that focuses upon business practice. The DBA is a professional doctoral program intended for Executives, Managers, Consultants, and Instructors of business who want to expand their knowledge, and skills. The program develops the skills to analyze, practice, and research to equip the students with an understanding of both management practices, and of real-world business principles and thoughts. As an international business school, ITU bridges the gap between learning and its application.

### Program Learning Outcomes:

Upon completion of this program, graduates will:

- Understand research design and methods necessary to undertake a doctoral-level research project.
- Be able to design, implement, and evaluate a major research project dealing with business and managerial issues in the context of effectively managing technology, innovation and change in a business environment.
- Be able to demonstrate the capacity to conduct original research and to apply, test, and/or examine ideas, whether they're own or those of others.
- Understand the relationship between own research theme, associated literature and business knowledge.
- Be able to achieve a greater level of effectiveness as a professional practitioner in managing technology, innovation and related organizational change.
- Be able to perform an academic research, leading to publication of work in refereed journals.
- Understand the research methodology, and data gathering process.
- Understand the research and writing skills with high-level of responsibility in the academic and business environments.

### Advisory Committee

To guide students through the first phase of the degree program, an advisory committee of at least three faculty members with appropriate terminal degrees will be assigned. The advisory committee also may serve as the Dissertation Committee.

### Program Requirements

3 Foundation Core Courses: 9 Units  
5 Business Core Courses: 15 Units  
6 Elective and Seminars: 18 Units  
Dissertation Research: 18 Units  
Internship: 3-9 Units (counts as elective)

LDP 200 and 300 (unless tested out): 6 Units Max. (counts as elective)  
Cross Disciplinary Electives: Up to 3 Units  
Transfer Credits: Up to 9 Units (counts as elective)

#### Foundation Core

DBA 900 Writing and Research Methods  
DBA 901 Quantitative Research Analysis  
DBA 902 Qualitative Research Analysis

#### Business Core

DBA 910 Special Topics in Research Techniques  
DBA 911 Management and Organizational Theory  
DBA 912 Management as a Behavioral Science  
DBA 913 Emerging Issues in Marketing Management and Research  
DBA 914 Emerging Issues in Strategic Decision Making  
DBA 915 Creativity as a Linguistic Process  
DBA 916 Innovation and Creativity: Culture of Group Dynamics  
DBA 917 Conflict Resolutions  
DBA 918 Creativity as a Linguistic Process  
DBA 920 Emerging Issues in Financial Decision Making  
DBA 925 Seminar in Organizational Behavior Research with emphasis on Leadership  
DBA 930 Seminar in Special Topics in International Business  
DBA 940 Seminar in Administrative Policy and Administration  
DBA 950 Operations and Information Technology Management

#### Elective and Seminars

DBA 810 Management Practice and Organizational Behavior  
DBA 811 Advanced Managerial Economics  
DBA 812 Seminar in the Sociological and Psychological Principles of Management  
DBA 813 Leadership Behavior and Motivation  
DBA 814 Seminar in Special Topics in Marketing  
DBA 815 Leadership and Ethics  
DBA 816 Seminar in Strategic Planning in Human Resource Management  
DBA 817 Philosophies and Concepts of Total Quality Management  
DBA 820 Seminar in Accounting Information Systems  
DBA 821 Seminar in Auditing  
DBA 822 Current Issues in Accounting Research  
DBA 823 Seminar in Corporate Finance  
DBA 824 Seminar in Investments  
DBA 825 Multinational Business Finance  
DBA 830 Management Practice for the International Institution  
DBA 831 Seminar in International Business  
DBA 832 Seminar in International Marketing  
DBA 833 Seminar in International Finance  
DBA 834 International Macroeconomics Analysis  
DBA 835 International Human Resource Management  
DBA 836 International Information Technology Management  
DBA 840 Emerging Issues in Organizational Behavior and Human Resources  
DBA 841 Economics and Public Policy  
DBA 842 Organization Design  
DBA 843 Corporate Planning and Environment

DBA 844 Legal Issues for the Modern Institution  
DBA 845 Seminar in Organizational Behavior Research  
DBA 846 Seminar in Special Topics in Operations Management  
DBA 847 Seminar in strategy and innovation  
DBA 848 Leadership Behavior and Conflict Resolutions  
DBA 850 Technology, Innovation, and Entrepreneurship  
DBA 851 Managerial Applications of Information Technology  
DBA 852 Networking Concepts and Applications  
DBA 853 Managing Software Development Projects

Dissertation Research

DBA 990 Dissertation Research

## COMPUTER SCIENCE AND SOFTWARE ENGINEERING

### FACULTY

Cornel Pokorny, PhD, Technical University – Vienna, Department Chair of Computer Science & Software Engineering

Min Wu, PhD, Massachusetts Institute of Technology, Core Faculty of Computer Science & Software Engineering

Richard Riehle, PhD, Naval Postgraduate School, Core Faculty of Computer Science & Software Engineering

Ming Hwa Wang, PhD, Illinois Institute of Technology, Core Faculty of Computer Science & Software Engineering

Xiaoshu Qian, PhD, University of Rhode Island, Core Faculty of Computer Science & Software Engineering

## MASTER OF SCIENCE IN SOFTWARE ENGINEERING

### Overview:

Software engineering is a form of engineering that applies principles of computer science and mathematics to achieve cost-effective solutions to software problems. The software engineering curriculum places primary emphasis on the technical aspects of building and modifying high quality software systems.

### Definitions:

Software Engineering is “The establishment and use of sound engineering principles (methods) in order to obtain economically software that is reliable and works on real machines” [Bauer 1972].

“That form of engineering that applies the principles of computer science and mathematics to achieving cost-effective solutions to software problems.” [CMU/SEI-90-TR-003]

“The application of a systematic, disciplined, quantifiable approach to the development, operation, and maintenance of software” [IEEE 1990].

Software Engineering is an established discipline that comprises requirement analysis, design, construction, testing, as well as the economics, and management issues of the creation and maintenance of software. A Software Engineer has the special knowledge and skills necessary to develop and maintain large, complex software systems. A Software Engineer approaches all of these problems in a pragmatic and organized way and is concerned with the theoretical and practical aspects of technology, cost, and social impact of effective and efficient software.

Degree programs in software engineering have many courses in common with computer science. However, when it comes to techniques concerned with the reliability of software and with developing and maintaining software that is correct from the start of its development, the engineering knowledge and experience provided in SE programs go beyond what general CS programs provide. It is considered a necessity by many



professionals and educators in the SE field that students of SE should participate in the development of software to be used in earnest by others.

ITU's curriculum for a MSSE is concerned with the technical and management issues of SE, but primary emphasis is placed on the technical aspects of building and modifying high quality software systems. It thus allows the students to prepare for careers in businesses that build and sell computers and/or software, in Internet based companies, electronic business organizations, diverse research and development laboratories, aerospace companies, banks, and insurance companies. The development of this graduate curriculum has taken the recommendations of the Joint Task Force on Computing Curricula of the IEEE Computer Society and the Association for Computing Machinery of August 2004 into consideration.

ITU's curriculum for a MSSE is concerned with the technical and management issues of software engineering, but primary emphasis is placed on the technical aspects of building and modifying high quality software systems. It thus allows the students to prepare for careers in business that build and sell computers and/or software, in Internet based companies, electronic business organizations, diverse research and development laboratories, aerospace companies, banks, and insurance companies.

#### Job Possibilities:

Jobs within software engineering, including but not limited to: Software Development Engineering, Software Applications Engineering – analysis, design, construction, testing, as well as the economics, and management issues of the creation and maintenance of software. A Software Engineer has the special knowledge and skills necessary to develop and maintain large, complex software systems.

#### Admission Requirements:

Students interested in any Master's program must first receive an undergraduate degree. If that degree is in the area of computer science or a related field then a minimum grade point average of 3.0 is required for the last half of courses taken that count for the degree. If the degree is in a different field then the minimum grade point average required for all courses that count for the degree is 3.0.

#### Program Requirements:

2 Required Courses: 6 units

2 Core Courses: 6 units

1 Math Course: 3 units

9 Elective Courses: 27 units

Internship: 3-9 Units (counts as elective)

LDP 200 and 300 (unless tested out): 6 Units Max. (counts as elective)

Cross Disciplinary Electives: Up to 3 Units

Transfer Credits: Up to 9 Units (counts as elective)

Students must complete a total of 36 units.

Students should register for "Elective Courses" to fulfill the minimum 36 credit units as needed. Credit units earned from "Elective Courses" will not replace the minimum required credit units under "Core Courses" and "Applied Mathematics."

#### Elective Course Exceptions:

- A maximum of 3 credit units are allowed from MBA and Digital Arts. Any MBA and Digital Arts credits exceeding the allowed limit will not be counted towards the degree.

- A maximum of 9 Transfer Credit Units may be approved by Department Chair. If approved, Transfer Credit Units will replace elective course credit units

The 36 units are required as follows:

Required Courses:

All MSSE students must complete the following required courses.

SEN 941 Software Engineering  
SEN 942 Advanced Software Engineering

Core Courses:

A minimum of 6 credit units from the courses below:

CS 920 Programming Paradigms  
SEN 920 Computer Algorithms  
SEN 943 Software Risk Management  
SEN 944 Software Refactoring  
SEN 945 Software Requirements Elicitation  
SEN 950 Software Architecture  
SEN 959 Principles of Operating Systems  
SEN 986 Software Design using UML

Applied Mathematics Courses:

A minimum of 3 credit units from the courses below

AMN 910 Linear Algebra  
AMN 912 Applied Mathematics Methods  
AMN 920 Optimization Techniques  
AMN 921 Advanced Optimization Techniques  
AMN 922 Advanced Applied Mathematics Methods  
AMN 930 Numerical Analysis  
AMN 940 Discrete Mathematics  
AMN 945 Number Theory  
AMN 950 Fast Fourier Transformation & Applications  
AMN 952 Probability & Statistics for Engineers

Elective courses:

BCS 100 C++  
CEN 940 Network Security Techniques  
CEN 941 Introduction to Computer Vision  
CEN 943 Digital Image Processing  
CEN 951 Computer Architecture  
CEN 956 Distributed Computing Systems  
CEN 960 Computer Communication Networks  
CEN 966 Routing in Computer Networks  
CS 810 Information Security Countermeasures  
CS 820 Principles of Ethical Hacking  
CS 830 Cloud Computing Security  
CS 831 Data Mining  
CS 840 Cert Cloud and Virtualization Security  
CS 850 Big Data  
CS 901 Network & Data Security

CS 904 Bio Informatics  
CS 910 Coding Theory  
CS 921 Semantic Web  
CS 922 Natural Language Processing  
CS 923 Programming Language Theory  
CS 925 Scala Programming  
CS 926 Performance Critical Design  
CS 927 Model Driven Architectures  
CS 930 Programming using Perl Script  
CS 931 Introduction to the Tcl/Tk Programming  
CS 932 Practical Neural Networks Techniques  
CS 933 Machine Learning  
CS 936 Formal Methods  
CS 940 Network Security Techniques  
CS 950 Advanced Computer Algorithms  
CS 960 Introduction to Data Science  
CS 961 Advanced Data Science  
CS 979 Cryptography & Cryptanalysis  
MISY 915 Management Information Systems  
SEN 760 SQA/Manual Testing  
SEN 860 SQA/manual/auto/perf Testing  
SEN 890 Data Structures  
SEN 905 Ruby on Rails  
SEN 909 OO Programming with C++  
SEN 910 HTML/CSS Programming  
SEN 911 Web Graphic Design  
SEN 930 SQA/Software Testing Tools  
SEN 932 Web Programming With C# And Dot Net  
SEN 934 Principles of Database Systems  
SEN 936 Software tools  
SEN 940 Software Engineering Management  
SEN 948 UI Design & Implementation  
SEN 949 JavaScript Programming (Client Programming with JavaScript)  
SEN 951 Client Programming with JS/jQuery  
SEN 953 Compiler Design  
SEN 954 Server Programming with PHP  
SEN 956 The Unix Operating System  
SEN 957 GUI Development with Java  
SEN 958 Android Phone Application Development  
SEN 960 SQA/Performance Testing  
SEN 961 Cloud Computing  
SEN 962 Web page design using HTML and Java  
SEN 963 Python Programming  
SEN 964 OO Programming with Java  
SEN 965 iPhone Application Development  
SEN 966 Advanced iPhone Application Development  
SEN 967 Web Programming with Ajax  
SEN 968 Design and Maintenance of Commercial Web Sites  
SEN 970 OO Programming with Objective-C  
SEN 972 Java EE Programming  
SEN 974 Client/Server and Internet

SEN 975 Application Development with GWT  
SEN 982 Oracle Database Management/Administration  
SEN 985 Artificial Intelligence  
SEN 991 Computer Graphics  
SEN 992 Advanced Computer Graphics  
SEN 993 Computer Graphics with WebGL  
SEN 996 Independent Study  
SEN 998 Project  
SEN 999 Thesis

#### Internships and Curricular Practical Training

A maximum of 9 credit units. Credits can be replaced by elective credits with approval from Registrar's Office.

Students can register for more than a combined total of 9 credit units on CPT and/or Joint Seminar, but only 9 credit units are counted towards the degree.

CPT 921F Internship F (Full Time)

CPT 921P Internship P (Part Time)

GRN 597 Joint Seminar

## DIGITAL ARTS

### FACULTY

Cedrick Chan, BS, Lehigh University, Department Chair of Digital Arts

Wes F. Takahashi, Annie Award-winning Director, Head of Animation Department at Lucasfilm's Industrial Light and Magic, Interim Department Chair of Digital Arts

### MASTER OF SCIENCE IN DIGITAL ARTS

Background Digital Arts (DA) is a relatively young discipline that is developing and evolving rapidly. Emerging mere decades ago, DA was accessible only by the largest corporations, studios and universities. Today, DA touches the daily lives of individuals in the form of public, private and personal media. The appetite for content and creators is insatiable.

#### Definition

What constitutes or falls under the umbrella of DA? In the simplest and broadest definition, Digital Arts consists of all works produced and consumed in part or completely in the digital medium. Digital Arts is the intersection of art, science and commerce. The knowledge, discipline and technique required to produce such works include utilizing analog and digital tools with an eye toward societal responsibility and impact. The intense use of computer techniques in the art fields has not only influenced and changed the way in which former art activities are conducted, but also created totally new areas and techniques of art. Since the term Digital Arts covers a vast and hugely varied field of modern art activities, it must be considered an umbrella term for artistic work that uses computers and digital media in any way.

#### Curriculum

The Master of Science in Digital Arts (MSDA) is a two-year academic program that leads to the MSDA degree. The development of ITU's graduate curriculum for the MSDA incorporates and includes the experience of international film, video game and digital media productions from Silicon Valley and Hollywood.

The ITU MSDA curriculum is focused on providing students with the required technical and artistic design skills to succeed in the international markets and industries. Students will be exposed to and become familiar with the underlying technical, scientific, and algorithmic knowledge; production management; industry application; global and local cultural significance; exposure to visiting professors who are experienced international industry professionals; intense training in labs with industry projects and mentors. Students will learn to work in live action, animation, virtual and interactive media. The program thus prepares students for careers in state of the art DA production, advertisement, movies, game development, and mobile and Internet media applications.

An additional driving force in the development of this curriculum is the intent to inspire creativity and cultivate skills that are in high industry demand by training them for active professional productions of major commercial studios. Recent and current examples include projects Film Group where students were active professionals in Disney and

China Film Group projects. In addition, ITU's Research & Development programs are in partnership with major world-wide universities, institutions and companies. Current R&D projects and programs include partnerships with Beijing University and Tsinghua University supervised by Google and Intel research executives.

It is the vision and drive of ITU's MSDA curriculum to truly balance the practical and the academic needs of the world's digital arts industries and markets. ITU's MSDA graduates are not only prepared to participate in today's digital arts fields, but also to create and lead the industry into the future.

#### Prerequisites

An undergraduate degree is required for admission. If the undergraduate degree is in the area of computer science, digital arts or a related field then a minimum grade point average of 3.0 is required for the last half of courses taken that count for the degree. If the undergraduate degree is in a different field then the minimum grade point average required for all courses in that degree is 3.5. Exceptions to these requirements can be made by the academic council.

#### Program Requirements

4 Core Courses: 12 Units

6 Elective Courses: 18 Units

Internship: 3-9 Units (counts as elective)

LDP 200 and 300 (unless tested out): 6 Units Max. (counts as elective)

Cross Disciplinary Electives: Up to 3 Units

Transfer Credits: Up to 9 Units (counts as elective)

Master's Project: Up to 6 Units (counts as elective)

36 Total Units

#### Core Courses

MMM 810 General Production Pipelines

MMM 820 Global Storytelling

MMM 830 Graphic Design Fundamentals

MMM 831 CG Software Fundamentals

MMM 900 Digital Media StartUp

MMM 905 New Media Production

MMM 910 Storyboard Design

MMM 955 Math & Programming for Artists

SEN 991 Computer Graphics

#### Elective Courses

CS 930 Programming Perl Script

CS 931 Intro Programming Tcl/Tk

MMM 710 Digital Media Distribution

MMM 720 Producing Digital Media

MMM 777 Media Assets & Pre- visualization-Multi-media App Production Workshop

MMM 860 CG Modeling

MMM 870 Basic Image Manipulation

MMM 880 Real-time Lighting & Compositing

MMM 888 Real-time Lighting-Real time Compositing & FX Workshop

MMM 890 Social Network Marketing & Publishing

MMM 903 Animation I

MMM 911 Web Graphic Design  
MMM 916 Animation 2  
MMM 921 Storyboards and Layouts  
MMM 923 3D Modeling and 3D Printing  
MMM 930 Manufacturing Cinematic Space  
MMM 931 Rigging for 3D Animation  
MMM 940 Architectural Tour  
MMM 950 Lighting and Compositing  
MMM 999 Concept Art & Storyboarding- Digital Architecture and Sets Workshop  
SEN 909 OO Programming with C++  
SEN 910 HTML/CSS Programming  
SEN 949 JavaScript Programming  
SEN 957 GUI Development with Java  
SEN 958 Android Application Development  
SEN 963 Python Programming  
SEN 964 OO Programming with Java  
SEN 965 iPhone Application Development  
SEN 970 OO Programming with Objective-C  
SEN 992 Advanced Computer Graphics  
SEN 993 Computer Graphics with HTML

## **ELECTRICAL ENGINEERING AND COMPUTER ENGINEERING**

### **FACULTY**

May Huang, PhD, International Technological University, Department Chair of Electrical Engineering

Eric Chen, PhD, University of Waterloo, Core Faculty of Electrical Engineering

Dominik Schmidt, PhD, Stanford University, Core Faculty of Electrical Engineering

Karl Wang, PhD, Massachusetts Institute of Technology, Core Faculty of Electrical Engineering

Avid Farhoodfar, PhD, Queens University, Core Faculty of Electrical Engineering

### **MASTER OF SCIENCE IN ELECTRICAL ENGINEERING**

The Electrical Engineering degree program currently focuses in the following areas: VLSI Design, Analog & RF IC Design, Digital Signal Processing & Communications, Computer Network & Systems Engineering, leading to the degree of Master of Science in Electrical Engineering (MSEE). Its purpose is to prepare students for career in industry, research or education.

#### Program Student Learning Outcomes:

Upon completion of this program, graduates will be able to:

- Understand fundamentals of mathematics, science and engineering
- Understand design specifications to analyze and solve engineering problems
- Implement a design specification toward a complete engineering solution by applying mathematics, science, and engineering knowledge
- Have professional and ethical responsibility in the accomplishment of engineering tasks
- Apply economic engineering solutions
- Communicate significant technical information in a clear, concise manner
- Understand and identify various customer needs
- Work productively and successfully in teams
- Enhance engineering skills through experimentation, discovery, and verification of ideas and concepts

#### Program Requirements

2 Core Courses: 6 Units

2 Math Courses: 6 Units

3 Specified Field (VLSI Design; Analog, MEMS & RFIC Design; DSP & Communication; System Design): 9 Units

3 Elective Courses: 15 Units

Internship: 3-9 Units (counts as elective)

LDP 200 and 300 (unless tested out): 6 Units Max. (counts as elective)

Cross Disciplinary Electives: Up to 3 Units

Transfer Credits: Up to 9 Units (counts as elective)

36 Total Units

#### Core Courses

CEN 908 Scientific Computing



CEN 948 Computer Network System  
CEN 951 Computer Architecture  
EEN 901 Fundamentals of Semiconductor Physics  
EEN 906 Electromagnetic Fields and Waves  
EEN 910 Integrated Circuit Design and Methods  
EEN 915 Analog Circuit Design  
EEN 941 Digital Signal Processing  
EEN 946 Design of Embedded Systems  
EEN 961 Fundamentals of Communication Systems

#### Elective Courses

CEN 940 Network Security Techniques  
CEN 941 Introduction to Computer Vision  
CEN 942 Digital Image Processing  
CEN 951 Computer Architecture  
CEN 956 Distributed Computing Systems  
CEN 961 Parallel Computing  
EEN 903 Semiconductor Devices and Modeling  
EEN 904 Integrated Circuit Manufacture Processes  
EEN 905 Digital Design in HDL  
EEN 911 VLSI Design I - Circuit Design  
EEN 912 VLSI Design II - Memory Design  
EEN 913 Microprocessor Design  
EEN 916 Mixed Signal IC Design  
EEN 917 Advanced Analog IC Design  
EEN 918 RF IC Design  
EEN 920 ASIC Design I  
EEN 921 FPGA Design  
EEN 922 Design Verification  
EEN 925 ASIC Design II  
EEN 929 System on Chip Design (SOC)  
EEN 930 Quantum Devices  
EEN 931 Nanotechnology  
EEN 935 Introduction to MEMS Design  
EEN 946 Designs of Embedded Systems  
EEN 958 Advanced System Design  
EEN 971 Introduction to Wireless Communication Systems  
EEN 975 High Speed Digital Systems  
EEN 976 Introduction to Near Field Communication  
EEN 977 Green Energy  
SEN 920 Computer Algorithms  
SEN 985 Artificial Intelligence

#### Math Courses

AMN 910 Linear Algebra  
AMN 912 Applied Mathematics Methods  
AMN 920 Optimization Techniques  
AMN 922 Advanced Applied Mathematics Methods  
AMN 930 Numerical Analysis  
AMN 940 Discrete Mathematics  
AMN 952 Probability & Statistics for Engineers

## MASTER OF SCIENCE IN COMPUTER ENGINEERING

“Computer engineering is a discipline that embodies the science and technology of design, construction, implementation, and maintenance of software and hardware components of modern computing systems and computer-controlled equipment. Computer engineering has traditionally been viewed as a combination of both computer science and electrical engineering.” (Definition of Computer Engineering in the October 2004 Curriculum Report of the IEEE/ACM task force on Computing Curricula).

ITU’s curriculum for a MSCE is a blend of certain Computer Science and electrical Engineering courses. This reflects the fact that computer engineers are partly programmers and partly computer hardware designers. They are not electronics engineers as their design work is ALWAYS related to the computer. The computer, on the other hand is ALWAYS a program driven device. Typical areas, where this blend is applied and for which ITU prepares the students include ASIC design, FPGA development, firmware development, hardware-firmware integration, and circuit design. The development of this graduate curriculum has taken the recommendations of the above cited IEEE/ACM task force into consideration.

### Curriculum:

Below are listed the required and elective courses for the MSCE curriculum together with the prerequisites, if any. The course contents together with prerequisites, if any, are listed in the appendix. The number of courses specified below are in the minimum in each category. If a student chooses more that the minimum in one category s/he can choose fewer in another category, but can never go below a minimum.

### Program Learning Outcomes:

Upon completion of this program, graduates will be able to:

- Design analog and digital circuits
- Write “hardware-close” programs
- Understand digital signal processing and digital circuits
- Understand computer architecture and organization, hardware/software integration, and human/computer interaction
- Understand computer operating systems and embedded systems
- Understand Unix operating system
- Understand the nature and behavior of algorithms
- Apply programming and software engineering fundamentals
- Be familiar the database system
- Have awareness of societal impacts and professional responsibilities

### Program Requirements

2 Core Courses: 6 Units

2 Math Courses: 6 Units

8 Elective Courses: 24 Units

Internship: 3-9 Units (counts as elective)

LDP 200 and 300 (unless tested out): 6 Units Max. (counts as elective)

Cross Disciplinary Electives: Up to 3 Units

Transfer Credits: Up to 9 Units (counts as elective)

## 36 Total Units

### Core Courses

SEN 961 Cloud Computing  
SEN 963 OO Programming with Python  
SEN 964 OO Programming with Java  
SEN 966 Advanced I-Phone Application Development  
SEN 970 OO Programming with Objective-C  
SEN 982 Oracle Database Architecture & Administration  
SEN 985 Artificial Intelligence  
SEN 991 Computer Graphics  
SEN 992 Advanced Computer Graphics

### Elective Courses

CEN 964 Computer Interface and Firmware Engineering  
CEN 965 Introduction to Medical Image Systems  
CEN 966 Routing in Computer Networks  
CEN 967 Local Area Networking  
CEN 968 Network Storage Systems  
CEN 998 Research Project  
EEN 905 Digital Design in HDL  
EEN 925 ASIC Design II  
EEN 929 System on Chip Design  
EEN 950 Computer Control Engineering  
EEN 953 Advanced Machine Learning Engineering  
EEN 961 Fundamentals of Communication Systems  
EEN 976 Introduction to Near Field Communication  
SEN 911 Web Graphic Design  
SEN 930 QA/Software Testing Tools  
SEN 965 I-Phone Application Development I  
CEN 999 Thesis  
AMN 910 Linear Algebra  
AMN 912 Applied Mathematics Methods  
AMN 920 Optimization Techniques  
AMN 922 Advanced Applied Mathematics Methods  
AMN 930 Numerical Analysis  
AMN 940 Discrete Mathematics  
AMN 952 Probability & Statistics for Engineers  
CEN 908 Scientific Computing  
CEN 940 Network Security Techniques  
CEN 941 Introduction to Computer Vision  
CEN 942 Digital Image Processing  
CEN 943 Advanced Digital Image Processing  
CEN 948 Computer Network Systems  
CEN 951 Computer Architecture  
CEN 956 Distributed Computing Systems  
CEN 960 Computer Communication Networks  
CEN 961 Parallel Computing  
CEN 996 Independent Study  
EEN 910 Integrated Circuit Design And Methods  
EEN 910 IC Design & Methods

EEN 911 VLSI Design I - Circuit Design  
EEN 912 VLSI Design II - Memory Design  
EEN 913 Microprocessor Design  
EEN 920 ASIC Design I  
EEN 921 FPGA Design  
EEN 941 Digital Signal Processing  
EEN 946 Design of Embedded Systems  
EEN 958 Advanced System Design  
EEN 971 Introduction to Wireless Communication Systems  
MISY 915 Management Information Systems  
SEN 663 Unix, Perl & Web Management  
SEN 909 OO Programming with C++  
SEN 920 Computer Algorithms  
SEN 930 QA/Software Testing Tools  
SEN 941 Software Engineering  
SEN 953 Compiler Design  
SEN 956 Unix Operating Systems  
SEN 957 GUI Development with Java  
SEN 958 Android Phone Application Development

#### Math Courses

AMN 914 Fast Fourier Transformation & Applications  
AMN 960 Advanced Optimization Techniques  
AMN 965 Advanced Engineering Mathematics

## **DOCTOR OF PHILOSOPHY IN ELECTRICAL ENGINEERING**

#### Application:

Student who completed his/her master degree in the subject field with GPA 3.0 or above is eligible to apply for the PhD program.

#### Thesis Advisor:

It is the student's responsibility to obtain consent from a full-time faculty member in the student's major department to serve as his/her prospective thesis advisor.

Students are required to find a thesis advisor as soon as possible after being accepted as a PhD student.

The student and the thesis advisor jointly develop a complete program of studies for research in a particular area. The complete program of studies (and any subsequent changes) must be filed with the Graduate Services Office and approved by the student's advisor.

#### Course Work and Study Program:

The students are expected to complete a minimum of 60 trimester units of graduate credit beyond the master's degree. Of these, 30 trimester units may be earned through course work and independent study and 30 through the thesis. All thesis units are graded on a Pass/No Pass basis. A maximum of 15 trimester units may be transferred from other accredited institutions at the discretion of the student's advisor.

#### Comprehensive Examinations:

After completion of the formal course work approved by the Doctoral Committee, the student shall request for comprehensive examination. The examination shall be a written exam representing sufficient, in-depth for advanced research in the major.

The comprehensive examinations normally must be completed within four years from the time of admission. Comprehensive examinations may be repeated only once, in whole or in part, at the discretion of the thesis advisor.

#### Admission to Candidacy:

A student who passes the comprehensive examinations is considered as a PhD candidate.

A PhD candidate should promptly ask the thesis advisor to form a doctoral committee.

#### Doctoral Committee:

Per student's request, the thesis advisor will form a Doctoral Committee. The Committee will consist of at least five members, including the thesis advisor and at least two members from the Electrical Engineering Department. The Committee must also include at least one member from outside the Department, preferably from outside the School of Engineering. The Doctoral Committee will review the proposed thesis topic, and determine any further changes to approving the research objective.

#### Thesis Research:

The period following the comprehensive examinations is devoted to research for the thesis, although such research may begin before the examinations are complete. After the research topic approved by the Doctoral Committee, the student should conduct thesis research toward the objective defined.

Publication: One or more refereed articles based on the thesis research must be accepted for publication in a professional or scientific journal approved by the Doctoral Committee.

#### Thesis Defense:

The thesis must be made available to all examiners one month prior to the examination. The oral examination shall consist of a presentation of the results of the thesis and the defense. Thesis defense is open to all faculty members of the university, but only members of the Doctoral Committee have a vote.

#### Program Completion:

At least one month before the degree is to be conferred, the candidate must submit to the Dean Office of the School of Engineering two copies of the final version of the thesis describing the research in its entirety. The thesis will not be considered as accepted until approved by the Doctoral Committee and publication acceptance.

All doctoral theses must also be reproduced on microfilm, for responding to requests for copies by individuals and libraries.

The University reserves the right to evaluate the undertakings and the accomplishments of the degree candidate in total, and award or withhold the degree as a result of its deliberations.

#### Time Limit for Completing Degrees:

All requirements for the doctoral degree must be completed within ten years following acceptance for the PhD program. Extensions will be allowed only in unusual circumstances and must be approved in writing by the Committee on Graduate Programs and the dean of the School of Engineering.

**\*\*Note:** These courses are only for US citizens or Green Card holders

Program Learning Outcomes:

Upon completion of this program, graduates will:

- Be able to demonstrate high professional ethics and mastery of fundamental concepts of electrical engineering.
- Be able to identify, investigate, formulate, and solve new problems of interest, conduct independent scholarly research, and contribute new ideas and engineering concepts to society.
- Be able to think analytically and demonstrate knowledge and language skills to serve in positions of technical leadership.
- Be able to demonstrate independence and assume major professional and ethical responsibilities in their careers.
- Understand business and engineering economics.
- Be able to clearly and effectively communicate difficult technical concepts.
- Understand and identify various needs of customers.
- Be able to work as a team member productively and successfully.
- Be able to demonstrate a high level of academic skills in education, technical creativity, leadership, and management

Ph.D. in Electrical Engineering Requirements:

The completion of at least 30 trimester credit units of graduate courses in the major field of study, 30 credit units of thesis, includes:

- o 12 credit units at least of required engineering courses EEN 902, 913, 914, 917, 918, 928, 932, 943, 953, 960, 961, 963, 971 and 995, CEN 922 and 973, SEN 920, or other approved courses
- o 12 credit units at least of elective engineering courses EEN 903, 916, 919, 922 to 925, 931, 941, 942, 946, 950, 952, 964, 965, 972, 977 and 996, CEN 940, 960 and 9965, SEN 959, 980, 984 and 992, GRN500 and 597, or other approved courses
- o 6 credit units at least in applied mathematics courses AMN 912, 920, 921, 922, 930, 940, 950 and 952, or other approved courses
- o 30 credit units of thesis

## **ENGINEERING MANAGEMENT**

### **FACULTY**

Barbara Hecker, PhD, Nova Southeastern University, Department Chair of Engineering Management

Tom Tafolla, JD, University of San Francisco, Core Faculty of Engineering Management

### **MASTER OF SCIENCE IN ENGINEERING MANAGEMENT**

The scope and complexity of engineering management responsibilities have changed dramatically during the past few years. Strong competition in the marketplace and the need to eliminate the trade and service deficit have put an emphasis on technology. It is the source of new products and improved productivity in manufacturing and service delivery.

Today's engineering management must incorporate technological innovation, satisfy design and safety requirements, manage human resources to boost productivity, use natural resources efficiently, stay on top of other environmental concerns and emphasize total quality in operations.

The Engineering Management program is designed to prepare technical managers from fields of engineering, science and math, and computer science to manage more effectively within technologically based organizations.

ITU's curriculum for the MSEM program is concerned with the management issues of Software Engineering, with the primary emphasis placed on the management aspects of building and modifying high quality software systems. It thus allows the student to prepare for careers in businesses that build and sell computers and/or software, in Internet based companies, electronic business organizations, diverse research and development laboratories, aerospace companies, banks, and insurance companies.

An undergraduate degree is required for admission. If the undergraduate degree is in an area of Computer Science, Software Engineering or a related technical field, then a minimum grade point average of 3.0 is required for the last half of courses taken that count for the degree. If the undergraduate degree is in a different field then the minimum grade point average required for all courses in that degree is 3.0. Exceptions to these requirements can be made by the academic council.

#### Program Learning Outcomes:

Upon completion of this program, graduates will:

- Be able to apply skills pertinent to the entrepreneurial and entrepreneurial management of both existing and emerging technologies.
- Understand engineering safety, strategies, and life cycle properties of a project.
- Be able to estimate and control engineering cost, including planning and scheduling, labor productivity, alternative methods for project delivery, and computer applications, such as e-business solutions.

### Program Requirements

2 Core Courses: 6 Units

1 Math Courses: 3 Units

5 Elective Business Courses: 15 Units

4 Elective Engineering (SE/EE/CE) Courses: 12 Units

Internship: 3-9 Units (counts as elective)

LDP 200 and 300 (unless tested out): 6 Units Max. (counts as elective)

Cross Disciplinary Electives: Up to 3 Units

Transfer Credits: Up to 9 Units (counts as elective)

36 Total Units

### Core Courses

EM 900 Engineering Management I

EM 901 Engineering Management Project

### Elective Business Courses

ACTN 920 Cost Accounting

ACTN 921 Intermediate Accounting

ACTN 922 Forensic Accounting

ACTN 923 Advanced Accounting

ACTN 924 Auditing

ACTN 925 Accounting Information Systems/ERP

ACTN 926 International Accounting

ACTN 927 Tax Accounting Principles

ACTN 928A Payroll Accounting

ACTN 928B Payroll Tech Accounting

ACTN 929 Federal Personal Income Taxation

ACTN 930 Federal Corporate Taxation

ACTN 940 Federal Partnership Taxation

ACTN 991 CPA Exam: Auditing and Attestation

ACTN 993 CPA Exam: Financial Accounting and Reporting

ACTN 994 CPA Exam: Regulation

CONS 900 Consilience Theory

ECON 920 Macroeconomic Theory

ECON 921 Microeconomics for Business Decisions

ECON 922 Econometrics

ECON 923 International Economics

EDBS 901 Computer Applications in Education

ERP 901 Introduction to ERP Systems using SAP

ERP 902 ABAP - Advanced Business Application Programming

ERP 903 ERP Product Lifecycle Management (PLM)

ERP 904 BI - Business Intelligence (BI)

ERP 905 Enterprise Portal technology using NetWeaver

ERP 906 ERP CRM - Customer Relationship Management

ERP 907 Enterprise procurement processes (MM)

ERP 908 Human Resource Implementation

ERP 910 Software as a service (SAAS)

ERP 911 Security Management

ERP 912 Sales order management with ERP

ERP 913 Workflow Management

FINN 916 Securities Analysis



FINN 917 Financial Economics  
FINN 918 Financial Institutions  
FINN 919 Advanced Financial Management  
FINN 920 Financial Derivatives and Risk Management  
FINN 922 Corporate Valuation  
FINN 930 Investment Management  
FINN 931 International Financial Management  
FINN 932 Corporate Finance  
FINN 933 Managerial Finance  
FINN 934 Financial analysis and Corporate Policy  
FINN 935 Mergers and Acquisitions  
FINN 936 Behavioral Finance  
HRMG 940 Human Resource Management  
HRMG 941 Employee Training and Development  
HRMG 942 Employment law for business  
HRMG 943 Human Resource Planning  
HRMG 944 Managing Human Capital  
HRMG 945 Strategic Compensation: Issues and Opportunities  
HRMG 946 Human Resources and Technology  
HRMG 947 Managerial Analysis & Team Dynamics  
HRMG 948 Managing Global Diversity  
INBS 910 Fundamentals of International Business  
INBS 911 International Financial Markets  
INBS 912 International Law  
INBS 913 Global Strategic Management  
INBS 914 International Monetary Economics  
INBS 915 International Human Resource Management  
INBS 916 Global Marketing and Strategy  
INBS 921 International Business Practicum  
INMG 910 Principles of quality management  
MBAN 997 Research Methods  
MBAN 998 MBA Project  
MBAN 999 MBA Thesis  
MGTN 901 Principles of Management  
MGTN 902 Business Statistics  
MGTN 910 Managing within the Law  
MGTN 915 Organizational Teamwork  
MGTN 916 Principles of Public Relations  
MGTN 917 Non-Linear Strategies for Business Success  
MGTN 920 Production and Operations Management  
MGTN 922 Quality Control Management  
MGTN 923 Lean Six Sigma  
MGTN 924 Business Continuity Planning  
MGTN 925 Impact of Intellectual Property in a Global Economy  
MGTN 930 Strategic Operations Management  
MGTN 935 Contracts and Purchasing Management  
MGTN 942 Critical Thinking Strategies in Decision Making  
MGTN 943 High-Technology Entrepreneurship  
MGTN 944 International Management  
MGTN 945 Pitching a Business to Venture Capitalists  
MGTN 945W Building a Pitch Deck for Venture Capitalists Workshop

MGTN 947 High Performance Leadership  
MGTN 948 Project Management  
MGTN 949 Organizational Theory  
MGTN 950 Project risk management  
MGTN 951 Business Communications  
MGTN 952 Business Ethics  
MGTN 953 Business Law  
MGTN 954 Advanced Project Management  
MGTN 966 "Managing Emotions, Managing Self and Others"  
MISY 910 Business Database Applications  
MISY 911 Business Telecommunications  
MISY 912 Information Resource Management  
MISY 913 Managing Global Information Systems Projects  
MISY 914 Information Systems Innovation  
MISY 915 Management Information Systems  
MISY 916 Human-Computer Interaction  
MISY 917 Business Decision Support Systems  
MISY 918 Data Mining and Business Intelligence  
MISY 920 Software Development Process Management  
MISY 921 Knowledge Management  
MISY 925 Public Information Management  
MISY 926 Strategic Management of Information Technology  
MISY 930 Business Information Systems & Technologies  
MKTN 950 Entrepreneurial Marketing  
MKTN 951 Competitive Marketing Strategies  
MKTN 952 Supply Chain Management  
MKTN 953 International Marketing  
MKTN 954 Marketing Research  
MKTN 955 Strategic Application of Technology in Marketing  
MKTN 956 "Comparative Studies of MNC FDI and International Trade"  
MKTN 957 Consumer Behavior  
MKTN 958 Marketing Management  
MKTN 959 Advanced Marketing  
MKTN 960 Effective Marketing Planning In Dynamic Environments  
MKTN 961 E-commerce  
MKTN 962 Marketing with Social Media  
MKTN 963 Advertising Strategy  
MKTN 964 Brand Management  
MKTN 965 Supplier/Seller Management  
PMGT 900 Project Management Frameworks  
PMGT 901 Strategic Planning & Portfolio Management  
PMGT 902 Mastering Project Management  
PMGT 903 Technical Skills in Project Implementation  
PMGT 904 Project Management & Leadership  
PMGT 905 Project Management - Agile Approach  
PMGT 910 Operation Management In Project Management  
PMGT 911 Contract Management & Financial Planning  
PMGT 912 Management of Organizational Changes  
PMGT 913 Business Analysis & Design  
PMGT 914 Process Mapping & Control  
PMGT 915 Quality Management in Project Execution

PMGT 920 Project Cost Management  
PMGT 925 Project Procurement Management

Elective Engineering Courses

CEN 940 Network Security Techniques  
CEN 940 Network security techniques  
CEN 941 Introduction to Computer Vision  
CEN 942 Digital Image Processing  
CEN 943 Advanced Digital Image Processing  
CEN 951 Computer Architecture  
CEN 956 Distributed Computing Systems  
CEN 960 Computer Communication Networks  
CEN 961 Parallel Computing  
CEN 964 Computer Interface and Firmware Engineering  
CEN 965 Introduction to Medical Image Systems  
CEN 966 Routing in Computer Networks  
CEN 967 Local Area Networking  
CEN 968 Network Storage Systems  
CEN 996 Independent Study  
CEN 998 Research Project  
CEN 999 Thesis  
CS 810 Information Security Countermeasures  
CS 820 Principles of Ethical Hacking  
CS 830 Cloud Computing Security  
CS 831 Data Mining  
CS 840 Cert Cloud and Virtualization Security  
CS 850 Big Data  
CS 901 Network & Data Security  
CS 904 Bio Informatics  
CS 910 Coding Theory\*  
CS 921 Semantic Web  
CS 922 Natural Language Processing  
CS 923 Programming Language Theory\*  
CS 925 Scala Programming  
CS 926 Performance Critical Design  
CS 927 Model Driven Architectures  
CS 932 Practical Neural Networks Techniques  
CS 933 Machine Learning  
CS 936 Formal Methods\*  
CS 940 Network Security Techniques  
CS 950 Advanced Computer Algorithms\*  
CS 960 Introduction to Data Science  
CS 961 Advanced Data Science  
CS 979 Cryptography & Cryptanalysis  
EEN 903 Semiconductor Devices and Modeling  
EEN 904 Integrated Circuit Manufacture Processes  
EEN 905 Digital Design in HDL  
EEN 910 IC Design & Methods  
EEN 911 VLSI Design I - Circuit Design  
EEN 911 VLSI Design I - Circuit Design  
EEN 912 VLSI Design II - Memory Design

EEN 912 VLSI Design II - Memory Design  
EEN 913 Microprocessor Design  
EEN 913 Microprocessor Design  
EEN 916 Mixed Signal IC Design  
EEN 917 Advanced Analog IC Design  
EEN 918 RF IC Design  
EEN 920 ASIC Design I  
EEN 921 FPGA Design  
EEN 921 FPGA Design  
EEN 922 Design Verification  
EEN 925 ASIC Design II  
EEN 929 System on Chip Design (SOC)  
EEN 930 Quantum Devices  
EEN 931 Nanotechnology  
EEN 935 Introduction to MEMS Design  
EEN 941 Digital Signal Processing  
EEN 946 Designs of Embedded Systems  
EEN 950 Computer Control Engineering  
EEN 953 Advanced Machine Learning Engineering  
EEN 958 Advanced System Design  
EEN 961 Fundamentals of Communication Systems  
EEN 971 Introduction to Wireless Communication Systems  
EEN 971 Introduction to Wireless Communication Systems  
EEN 975 High Speed Digital Systems  
EEN 976 Introduction to Near Field Communication  
EEN 976 Introduction to Near Field Communication  
EEN 977 Green Energy  
SEN 663 "Unix Perl & Web Management"  
SEN 760 SQA/Manual Testing  
SEN 860 SQA/manual/auto/perf Testing  
SEN 890 Data Structures  
SEN 905 Ruby on Rails  
SEN 909 OO Programming with C++  
SEN 910 HTML/CSS Programming  
SEN 911 Web Graphic Design  
SEN 911 Web Graphic Design  
SEN 920 Computer Algorithms  
SEN 930 QA/Software Testing Tools  
SEN 932 Web Programming with C# and Dot Net  
SEN 934 Principles of Database Systems  
SEN 935 Data Mining  
SEN 940 Software Engineering Management  
SEN 941 Software Engineering  
SEN 941 Software Engineering  
SEN 942 Advanced Software Engineering  
SEN 948 UI Design & Implementation  
SEN 949 JavaScript Programming  
SEN 950 Software Architecture  
SEN 951 Client Programming with JS/jQuery  
SEN 953 Compiler Design  
SEN 953 Compiler Design

SEN 954 Server Programming with PHP  
SEN 956 The Unix Operating System  
SEN 957 GUI Development with Java  
SEN 957 GUI Development with Java  
SEN 958 Android Phone Application Development  
SEN 958 Android Phone Application Development  
SEN 960 SQA/Performance Testing  
SEN 961 Cloud Computing  
SEN 962 Web page design with HTML and Java  
SEN 963 OO Programming with Python  
SEN 963 Python Programming  
SEN 964 OO Programming with Java  
SEN 965 I-Phone Application Development I  
SEN 965 iPhone Application Development  
SEN 966 Advanced iPhone Application Development  
SEN 967 Web Programming with Ajax  
SEN 968 Design and Maintenance of commercial web sites  
SEN 970 OO Programming with Objective-C  
SEN 970 OO Programming with Objective-C  
SEN 972 Java EE Programming  
SEN 974 Client/Server and Internet  
SEN 975 Application Developmt with GWT  
SEN 982 Oracle Database Architecture & Administration  
SEN 982 Oracle Database Management/Administration  
SEN 985 Artificial Intelligence  
SEN 985 Artificial Intelligence  
SEN 985 Artificial Intelligence  
SEN 991 Computer Graphics  
SEN 991 Computer Graphics  
SEN 992 Advanced Computer Graphics  
SEN 993 Computer Graphics with WebGL  
SEN 996 Independent Study  
SEN 998 Project  
SEN 999 Thesis

#### Math Courses

AMN 910 Linear Algebra  
AMN 912 Applied Mathematics Methods  
AMN 920 Optimization Techniques  
AMN 921 Advanced Optimization Techniques  
AMN 922 Advanced Applied Mathematics Methods  
AMN 930 Numerical Analysis  
AMN 940 Discrete Mathematics  
AMN 945 Number Theory  
AMN 950 Fast Fourier Transformation & Applications  
AMN 952 Probability & Statistics for Engineers

## **COURCES DESCRIPTIONS**

### **MASTER OF BUSINESS ADMINISTRATION**

#### **MASTER OF BUSINESS ADMINISTRATION (ACCOUNTING)**

#### **MASTER OF BUSINESS ADMINISTRATION (BIO MANAGEMENT)**

#### **MASTER OF BUSINESS ADMINISTRATION (DIGITAL MEDIA MANAGEMENT)**

#### **MASTER OF BUSINESS ADMINISTRATION (ENTERPRISE RESOURCES MANAGEMENT)**

#### **MASTER OF BUSINESS ADMINISTRATION (FINANCE)**

#### **MASTER OF BUSINESS ADMINISTRATION (HEALTHCARE MANAGEMENT)**

#### **MASTER OF BUSINESS ADMINISTRATION (HUMAN RESOURCES MANAGEMENT)**

#### **MASTER OF BUSINESS ADMINISTRATION (INTERNATIONAL BUSINESS)**

#### **MASTER OF BUSINESS ADMINISTRATION (MANAGEMENT OF INFORMATION SYSTEMS)**

#### **MASTER OF BUSINESS ADMINISTRATION (MANAGEMENT)**

#### **MASTER OF BUSINESS ADMINISTRATION (MARKETING)**

#### **MASTER OF BUSINESS ADMINISTRATION (PROJECT MANAGEMENT)**

##### **ACTN 900 Financial Accounting**

Course Description: This course provides an introduction to basic theory and methods of financial accounting. It is designed to offer managerial users the foundations of accounting concepts. The course helps the students understand the financial statement information. Focus will be on accounting for assets (e.g., Accounts Receivable, Inventories, Property, Plant and Equipment, Intangible Assets), liabilities (e.g., Bonds, Deferred Taxes) and owners equity. Focus will be also on the presentation of the income statement through Net Income, revenues and expenses. Class sessions develop the understanding of the different steps of the accounting cycle, and of the financial statements that give the managers the ability to use them for decision making.

##### **ACTN 910 Managerial Accounting**

Course Description: The course develops the understanding of the many ways that firms utilize costs. The students will learn the alternative costing methods, such as the relevant costs for decision making; the break even analysis and the contribution margin approach; absorption costing vs. direct costing; cost volume profit analysis. In addition, other topics are discussed such as the decision making involving joint costs, decentralization, product costing, job and process costing, and performance evaluation.

#### ACTN 920 Cost Accounting

Course Description: This is a study of cost accounting principles and procedures. The focus is on capital budgeting, standard costing, flexible budgeting, cost allocation, variance analysis, and transfer pricing.

#### ACTN 921 Intermediate Accounting

Course Description: This course is a review of basic accounting concepts. Topics include current assets, noncurrent assets and liabilities, including pensions and other employee compensation issues, leases, and debt financing. The course develops in depth understanding of equity accounts. It also discusses the single step and multiple step income statements, and the comprehensive income, derivatives, and contingencies. In addition, the income statement with separated reported items, such as discontinued operations, extraordinary items, and the cumulative effect of a change in accounting principle (net of tax effect) are presented.

#### ACTN 922 Forensic Accounting

Course Description: This course explores the forensic accountant's role in today's economy. The course is designed to enhance a student's understanding of the emerging field of forensic accounting. The course is structured to enhance the ability of students to think critically and to develop the knowledge, skills and attitudes necessary to compete effectively in the rapidly changing world of accounting using the traditional method of detecting fraud and using the current technology. By the end of the course, students are able to understand the causes of fraud and white-collar crime, examine the types of fraud and fraud schemes, explore methods of deterring and detecting fraud, and examine the financial impact to businesses and the economy.

#### ACTN 923 Advanced Accounting

Course Description: This course develops an understanding of the financial accounting principles with the preparation of consolidated financial statements, segment disclosures, foreign currency adjustments, in addition to reorganizations and liquidations, mergers and acquisitions.

#### ACTN 924 Auditing

Course Description: This course covers generally accepted auditing standards (GAAS) as they apply to the study of audit preparation. Other auditing services, such as compilations and reviews, are examined. In addition, the course covers the Code of Professional Conduct, which demonstrates the ethical responsibilities of the profession.

#### ACTN 925 Accounting Information Systems/ERP

Course Description: ITU/SAP University Alliance Prerequisites: ACTN 900 or equivalent. The course addresses the development and use of accounting information systems for managerial control and external reporting, focusing on reporting objectives, management needs, documentation, security, and internal controls. The course focuses on concepts and principles of designing computer systems to perform accounting functions; and extensive use of applications of different microcomputer accounting software packages. Students get to work on SAP central component of financial information system that incorporates sales, audit, cash management, etc. Students will be given few case studies to work on. Also course will incorporate case studies provided by SAP in the course.

#### ACTN 926 International Accounting

Course Description: The knowledge of accounting requirements and the influence of environmental factors on the accounting systems both nationally and internationally becomes important to the accounting professional. Topics of financial accounting for international operations, multinational managerial accounting and control, comparative international accounting, international reporting issues, and international taxation are examined. The focus of the course is to solve the problems related to accounting for multinational corporations doing business in a global environment. This course covers the topics of currency translation and foreign currency gains and losses, and accounting for international accounting organizations.

#### ACTN 927 Tax Accounting Principles

Course Description: This course introduces federal tax law, including the preparation of individual income tax form 1040 and related schedules. Tax accounting principles, such as the measurement of income, asset exchanges, capital transactions, and business expenses are examined. Topics include corporate income tax, subchapter S, dividends, and liquidating distributions. The course also provides tax knowledge through identification of significant differences between tax and financial accounting.

#### ACTN 928A Payroll Accounting

Course Description: The course examines the payroll records, regulations, and laws related to payroll. It offers the students proficiencies on the preparation of all payroll forms, schedules, and records. The course will also consist of a study of the computation of earnings and withholdings. Students will learn how to calculate wages and salaries, withholding for social security and income taxes.

#### ACTN 928B Payroll Tech Accounting

Course Description: This course teaches the use of microcomputers for accounting data such as computing wages; calculating social security, income, and unemployment taxes. Focus is placed on preparing proper payroll tax forms, journalizing and posting payroll transactions.

#### ACTN 929 Federal Personal Income Taxation

Course Description: The course introduces the federal income taxation of individuals. Topics include the concept of income, exclusions from income, personal and business deductions, taxable income.

#### ACTN 930 Federal Corporate Taxation

Course Description: The course will introduce the federal income taxation of corporation. Topics consist of the concept of contribution, formation, stock dividends, liquidation, and acquisition.

#### ACTN 940 Federal Partnership Taxation

Course Description: The course will introduce the federal income taxation of partnership. Topics consist of the concept of formation, operation of a partnership, sales of partnership interest, termination, and death of a partner.

#### ACTN 991 CPA Exam: Auditing and Attestation

Course Description: This course develops an understanding of the auditing process and the role of internal and external auditing in an organization. The course covers auditing procedures, auditing standards generally accepted (GAAS) and other standards related



to attestation engagements. The auditing and attestation section of the CPA exam tests knowledge in the context of five broad engagement tasks: plan the engagement, evaluate the prospective client and engagement, decide whether to accept or continue the client and the engagement, and enter into an agreement with the client; consider internal control in both manual and computerized environments; obtain and document information to form a basis for conclusions; review the engagement to provide reasonable assurance that objectives are achieved and evaluate information obtained to reach and to document engagement conclusions; and prepare communications to satisfy engagement objectives.

#### ACTN 993 CPA Exam: Financial Accounting and Reporting

Course Description: The Financial Accounting and Reporting section tests knowledge of accounting principles generally accepted (GAAP) for business enterprises. Topics include financial statements concepts and standards; typical items: recognition, measurement, valuation, and presentation in financial statements in conformity with GAAP; specific types of transactions and events: recognition, measurement, valuation, and presentation in financial statements in conformity with GAAP; accounting and reporting for governmental entities; accounting and reporting for not-for-profit organizations.

#### ACTN 994 CPA Exam: Regulation

Course Description: The Regulation section tests candidates knowledge of federal tax procedures and accounting issues; of federal taxation of property transactions; of federal taxation individuals and entities; of professional and legal responsibilities, of ethics and of business law.

#### CONS 900 Consilience Theory

Course Description: This is the first course comprising the capstone of general education requirements. It is aimed at presenting the case for the unity of science. It brings together leading edge scientific findings and thinking across a broad spectrum of human knowledge and explores new efforts at integrating the natural with the social sciences. It explores the relationships and linkages among physics, biology, neuroscience, psychology, psychodynamics, mysticism, and philosophy.

#### ECON 920 Macroeconomic Theory

Course Description: This course analyzes the level and rate of growth of output income, employment and prices, interest, and foreign exchange rates. It prepares decision-makers to understand how an economy functions, how to interpret, analyze, and operate within a changing macroeconomic environment.

#### ECON 921 Microeconomics for Business Decisions

Course Description: Course examines supply and demand theory for consumers, firms, and industry. It studies consumer utility and demand theories, production, cost and profitability theories, and theories on market structure (perfect competition, monopoly, monopolistic competition and oligopoly) for decision-making as a manager. Course includes using econometric techniques and software package to estimate demand/cost equations and solve practical problems requiring microeconomic analysis.

#### ECON 922 Econometrics

Course Description: The course offers understanding and application of fundamental econometrics with highlight on the practice and less focus on advanced econometric

theory. Econometrics comes within the economics knowledge that joins economic theory, statistics and mathematics. The course introduces econometric theory at the fundamental level to let students apply the processes with the use of real world information. The purpose of the course is to teach the students how to perform experimental learning in economics. Hence, the focus of the course is on practical functions.

#### ECON 922 Econometrics

Course Description: The course offers understanding and application of fundamental econometrics with highlight on the practice and less focus on advanced econometric theory. Econometrics comes within the economics knowledge that joins economic theory, statistics and mathematics. The course introduces econometric theory at the fundamental level to let students apply the processes with the use of real world information. The purpose of the course is to teach the students how to perform experimental learning in economics. Hence, the focus of the course is on practical functions.

#### ECON 923 International Economics

Course Description: This course examines basic principles and theories of international economics (the standard trade model and the Heckscher-Ohlin theory); international trade policies (tariff and non-tariff barriers); balance of payments, foreign exchange markets, and exchange rate determination; and the relationship between exchange rates, current accounts, and the economy as a whole, including fiscal and monetary policies in an open-economy.

#### EDBS 901 Computer Applications in Education

Course Description: This course examines how to integrate computers into the classroom education. Emphasis will be placed on skills in the use of computer technology appropriate to teaching, learning, and managing education. It explores how technology can be used for curriculum, instructional design, and educational standards. In addition, the course also helps students learn, evaluate, and use resources that are essential for classroom management, professional productivity, and dealing with issues of equal access.

#### ERP 901 Introduction to ERP Systems using SAP

Course Description: ITU/SAP University Alliance. Introduction to ERP using SAP is a prerequisite course for students who want to pursue other ERP courses. This course is designed for students to get basic understanding of all the Functional Departments that exist in business scenario. It gives an idea about how these functional departments work and how they are integrated in ERP systems to avoid duplication of work, and to provide efficiency and effective use of resources. It is a three Unit course consisting of 16 weekday sessions of 3 hours of each. The course is presented in lecture format with open discussion and hands-on problem solving exercises. SAP was founded in 1972 in Walldorf, Germany. It stands for Systems, Applications and Products in Data Processing. Over the years, it has grown and evolved to become the world premier provider of client/server business solutions for which it is so well known today. The SAP Business suite for open client/server systems has established new standards for providing business information management solutions. This course is a general overview of the SAP ERP System concepts and tools. This course introduces SAP as one of the ERP systems. Explains how the fundamental business processes interact in SAP ERP in the functional areas of Sales and Distribution, Materials Management, Production

Planning, Financial Accounting, Controlling, Human Capital Management.

#### ERP 902 ABAP - Advanced Business Application Programming

Course Description: ITU/SAP University Alliance. SAP ABAP (Advanced Business Application Programming) is an application specific language. ABAP is used by developers to enhance SAP feature and customize to the customer needs. Students get to learn from basics of ABAP which includes language basics, report-writing, and transaction-writing, making screens and window lines, creating dictionary definitions, producing library tasks, and designing client/server functions. Though this course starts from basics it's useful if students have basic programming knowledge with object oriented concepts and knowledge of relational database design. A student also gets hands on experience with scenarios which will be discussed and worked in class on SAP system. Students will be given programming task to work on. ABAP is the language for programming SAP's Web Application Server, part of SAP's NetWeaver platform for building business applications. This course introduces the ABAP language environment, including the syntax checking, code generation and runtime system, and various features of ABAP Programming.

#### ERP 903 ERP Product Lifecycle Management (PLM)

Course Description: This course offers an in-depth view of the enterprise broad planning, organization, and performance abilities. ERP product lifecycle management (PLM) software follows the design and features of a product throughout its lifecycle. Product life cycle engages people, information, practices and business systems. PLM is one of the major part of any product with communication and succession among various efficient departments.

#### ERP 904 BI - Business Intelligence (BI)

Course Description: Business intelligence (BI) is a large group of applications and technologies for collecting, accumulating, analyzing, and offering access to data to assist enterprise users make better business decisions. BI is a procedure which allows the information to be presented in significant way used for planning and decision making. BI offers past, current and future views of business.

#### ERP 905 Enterprise Portal technology using NetWeaver

Course Description: ITU/SAP University Alliance. SAP NetWeaver is SAP's integrated technology platform and is the technical foundation for all SAP applications since the SAP Business Suite. SAP NetWeaver is marketed as a service-oriented application and integration platform. SAP NetWeaver provides the development and runtime environment for SAP applications and can be used for custom development and integration with other applications and systems. SAP NetWeaver is built using open standards and industry de facto standards and can be extended with, and -interoperate with, technologies such as Microsoft .NET, Sun Java EE, and IBM WebSphere.

#### ERP 906 ERP CRM - Customer Relationship Management

Course Description: Customer relationship management software maintains front office operations, customer service, sales, and marketing roles. It engages using technology to arrange, automate, and coordinate business procedures, focusing primarily on sales, marketing, customer service and technical support. Customer relationship management explains a company business plan included within departments and with other departments. CRM is used to follow documentation and evaluate the performance of the procedure in a methodical process.

#### ERP 907 Enterprise procurement processes (MM)

Course Description: ITU/SAP University Alliance. This course introduces the external procurement process. During the course, the students go through the entire procurement process with its typical steps - purchase order, entry of goods receipt, and entry of incoming invoice - several times. The students get to work on SAP course will quickly build through each of these concepts using Fitter Snacker case study or Quazi case study and configuration so that by the final day of class, each student will have hands on configuration experience in procurement processes. In doing so, the students will focus on different aspects and become acquainted with additional functions. (MM) Enterprise procurement process is entire procurement process with its typical steps- Purchase order, entry of goods receipts, and entry of incoming invoice- several times. The course will quickly build through each of these concepts and configuration. In doing so, the students will focus on different aspects and become acquainted with additional functions. Students get a hand on with SAP central component and learn how to configure procurement process.

#### ERP 908 Human Resource Implementation

Course Description: The course offers answers to make simpler management and plans for different personnel management duties. During the course, students will learn several modules like Payroll, Time Management, Master Data, Organizational Management, Reporting and Benefits. Students will know how to organize simple situations in human resource area.

#### ERP 910 Software as a service (SAAS)

Course Description: Software as a Service or Software on demand is the software installed on internet. SAAS is a general design adapted by business applications and contains Accounting, Enterprise Resource Planning, and Customer relationship management. Students will understand the theory of SAAS and the technology which makes it possible.

#### ERP 911 Security Management

Course Description: The course engages learning to manage authorization and authentication for different procedures. With the enormous information handled by a single server, it is very essential to understand how to protect it from unauthorized access. Students know the theory and understand what is authorization, how it works and how to give authentications to people in a business. Students get to understand the concept of data theft.

#### ERP 912 Sales order management with ERP

Course Description: ITU/SAP University Alliance. Today's enterprises face increasingly complex ordering processes with orders consisting of component parts, customized configuration, make-to-order systems and the inclusion of services. This course give an insight of the procedure of sales order management using SAP. This course introduces the sales order management process with the SAP ERP Central Component. During the course, the students learn the entire sales order process starting from a sales inquiry, entering sales orders, creating outbound deliveries, posting goods issue and invoicing the customer and entering the incoming payment. The course will quickly build through each of these concepts and configuration using the Quazi Computer case study and by the final day of class, each student will have fully walked through the Sales and Distribution process using the SAP system. In doing so, the

students will focus on different aspects and become acquainted with additional functions in the sales order management process chain.

#### ERP 913 Workflow Management

Course Description: Workflow is the series of steps to realize a general duty for a group of people. Workflow management is the methodical approach to functions, information flow documented and learned.

#### FINN 916 Securities Analysis

Course Description: The course develops analytical skills for personal or business investment activities. Topics covered are techniques for analyzing risk and return for investment opportunities. This course discusses the modern and traditional portfolio management techniques. The students will learn the tools and techniques to develop their skills through the analysis of real firms.

#### FINN 917 Financial Economics

Course Description: The objective of this course is to undertake a rigorous study of the theoretical foundations of modern financial economics. The course will cover the central themes of modern finance including individual investment decisions under uncertainty, stochastic dominance, mean variance theory, capital market equilibrium and asset valuation, arbitrage pricing theory, option pricing, and incomplete markets, and the potential application of these themes. Upon completion of this course, students should acquire a clear understanding of the major theoretical results concerning individuals' consumption and portfolio decisions under uncertainty and their implications for the valuation of securities.

#### FINN 918 Financial Institutions

Course Description: This course provides students with an overview of the basic contributions in the modern theory of corporate finance and financial institutions. The course is methodology oriented in that students are required to master necessary technical tools for each topic. The topics covered may include capital structure, distribution policy, financial intermediation, incomplete financial contracting, initial and seasoned public offerings, market for corporate control, product market corporate finance interactions, corporate reorganization and bankruptcy, financing in imperfect markets, security design under adverse selection and moral hazard, and some selected topics.

#### FINN 919 Advanced Financial Management

Course Description: The course introduces advanced concepts and methods of financial management. Topics consist of asset evaluation, capital structure, risk and return, business financial planning, capital budgeting and working capital management.

#### FINN 920 Financial Derivatives and Risk Management

Course Description: This course helps the students to develop the necessary skills to value and to use options, and futures. Topics include the valuation of futures contracts on stock indices, on commodities and treasury instruments; the valuation of options; forwards; swaps; hedging strategies. The course covers derivative exchange, valuation of derivatives, trading practices and regulations, assessing and managing financial risk, and mutual funds analysis.

#### FINN 922 Corporate Valuation

Course Description: There is no major corporate investment decision that can be made without first asking and answering the question - "What is it worth?" The goal of this course is to build your skills and confidence in answering that question. In these turbulent times, it might appear that understanding market behavior is paramount. But as Mr. Buffett notes above, even so, the ability to value a business is still indispensable. Regardless of the career path you choose post-MBA; valuation is among the handful of essential tools you want to have in your skill set. The focus of the Corporate Valuation class is on making investment decisions in real (as opposed to financial) assets. It will acquaint you with the widely-used ideas that have revolutionized the practice of valuation during the past few decades. By the end of the course, I expect you to be comfortable in answering the question: What is a real asset - a new product, a new project, a division, or a company - worth? The class is broadly divided into three segments. - The first segment serves as a quick recap and reinforcement of the ideas that drive all valuations: free cash flows, cost of capital, growth rates, terminal value, DCF models (WACC vs. APV, FCFF vs. FCFE), trading and transaction multiples. - The second segment applies these ideas to practice in various valuation scenarios: project/divisional valuation, IPO valuation, valuation for mergers and acquisitions and valuation for private firms. - The final segment introduces real options and their application in corporate investment, focusing on how to identify, conceptualize and value them. We will discuss options to delay, expand and abandon using different techniques such as binomial tree, Black-Scholes, and Monte-Carlo simulation. Classes will consist of a combination of lectures, discussions and student presentations.

#### FINN 930 Investment Management

Course Description: The course offers the basics of investment management. Quoted and private equity investments and entrepreneurial finance are the focus of the topics. This course introduces market and portfolio perspectives, starting with the discounted cash flow methods to the concept of term structure in the valuation of risk-free cash flows, including forward rates and valuing risky or uncertain cash flows. The course prepares students to identify various investment products. Both real world and theoretical views are discussed.

#### FINN 931 International Financial Management

Course Description: This course provides students with the framework for making corporate financial decisions in an international environment. Topics include: measurement of currency exposure and of currency risk. In addition, topics about the decision to undertake a global financing program, exchange and capital market; capital budgeting analysis for foreign direct investment; and the value of target firms for cross-border acquisitions are discussed. The course will examine different aspects of the foreign exchange market, the role of governments and the central banks. The main focus is on the markets for spot exchange, currency forwards, options, swaps, international bonds, and international equities. Multinational financial transactions create unique challenges due to the market complexity, to the exchange rate and the political risks.

#### FINN 932 Corporate Finance

Course Description: Corporate Finance is an introductory finance course and it is required for all MBA students. It is designed to cover the areas of finance that are important to all managers. At the end of this course you will be able to value the financial position of a firm. In order to reach this goal, the students will analyze historical uses of funds and understand project funding needs. In addition, the students will be able to

analyze working capital management; choose among alternative sources of external funding for company operations; and evaluate investment opportunities. The course shows the students how to use ratio analysis to assess corporate performance, financial statements and cash needs.

#### FINN 933 Managerial Finance

Course Description: The course teaches the students financial concepts and tools necessary for effective business planning. Topics include formation of interest rates, income taxes, working capital management, cost of capital, financial forecasting, external sources of capital, company valuation and bankruptcy.

#### FINN 934 Financial analysis and Corporate Policy

Course Description: The course is an in-depth study of selected topics in finance, including ratio analyses, capital structure and leverage, working capital management, reorganization and bankruptcy. Current business cases, including several Harvard Business School cases study, will be discussed.

#### FINN 935 Mergers and Acquisitions

Course Description: This course examines issues that arise in the merger and acquisition context. There will be an analysis of the key components of acquisition agreements against the background of relevant case law. Topics include advanced capital budgeting techniques, strategies, acquisitions, and leveraged buyouts. The course focuses on the study of the law governing, and the methods of accomplishing, including the conduct of negotiations, considerations in pricing and stock-for-stock swaps.

#### FINN 936 Behavioral Finance

Course Description: There is an abundance of evidence suggesting that the standard economic paradigm “rational agents in an efficient market” does not adequately describe behavior in financial markets. In this course, we will survey the evidence and use psychology to guide alternative theories of financial markets with an eye towards identifying frontiers and opportunities for new research. Along the way, we will address the standard argument that arbitrage will eliminate any distortions caused by irrational investors. Further, we will examine more closely the preferences and trading decisions of individual investors. We will argue that their systematic biases can aggregate into observed market inefficiencies. The second half of the course extends the analysis to corporate decision making. We present the two themes of behavioral corporate finance: rational managers exploiting financial market inefficiencies and managerial decision-making biases. We then explore the evidence for both views in the context of capital structure, investment, dividend, and merger decisions. We emphasize the importance of differentiating the behavioral approach from information models and other more traditional methodology. We will also discuss Dual Motive Theory in terms of Ego/Empathy, greed/positive financial impact to understand how brain functions can impact financial behavior and relationships.

#### HRMG 940 Human Resource Management

Course Description: This course examines the principles of human resource management, including recruiting, hiring, orienting, training, developing, disciplining, and rewarding employees. The course provides a management-oriented exploration of human resource management, structure, functional applications, and labor management relations. This course is a humanistic and legal analysis of organizations, focusing on

the role of human resource management. There will be an examination of managers and leaders within organizations and their responsibility to maximize performance and make decisions based on ethical criteria. We will also discuss Dual Motive Theory in terms of Ego/Empathy, ethical/unethical behavior to understand how brain functions can impact human behavior and relationships.

#### HRMG 941 Employee Training and Development

Course Description: This course reviews training, employee and organizational development techniques that the organizations use to build group and individual skills. Topics include linking identified needs to business objectives, developing an implementation plan, implementing the plan using a variety of modalities, and assessing results. The students will use a hands-on approach to evaluate organizational needs for employee development. We will also discuss Dual Motive Theory in terms of Ego/Empathy, self/other behavior to understand how brain functions can impact human behavior and relationships.

#### HRMG 942 Employment law for business

Course Description: This course emphasizes federal employment statutes. Cases are used to illustrate the various federal courts' interpretation. Federal agencies such as Equal Employment Commission and Department of Labor are studied. Topic on the employment Law provides a comprehensive analysis of federal and state laws, which affect the human resource function, including equal employment opportunity, wage and overtime payment, and employment agreements. The course focuses on applying employment laws to develop programs that enable organizations to act positively in meeting both company and work force needs, trying to resolve workplace disputes, prevent litigation, and implement personnel policies and practices in conformity with applicable law.

#### HRMG 943 Human Resource Planning

Course Description: This course helps the students to understand the necessary basics of the human resources planning process in organizations. In this course, the students should complete a comprehensive written plan for a company's human resource function. Review of concepts and skills developed in other human resource courses is required. In addition to preparing the written plan, the students should make an oral presentation to the class and, if possible, to a panel of human resource professionals. Quantitative, qualitative concepts, approaches and techniques are discussed. Topics include human resources data systems and human resource action plans.

#### HRMG 944 Managing Human Capital

Course Description: This course focuses on the organizational factors that influence the utilization of human capital. In addition, it will focus on developing, maintaining and improving workforce competence. This course will also explore the challenges of increasing the competitive advantage through effective human capital management. Topics include workforce planning in a dynamic environment; building a positive human capital reputation; dynamics of organizational culture; organizational change and learning; linking corporate strategy and human capital management, and influencing emerging technologies. We will also discuss Dual Motive Theory in terms of Ego/Empathy, ethical/unethical behavior to understand how brain functions can impact human behavior and relationships.

#### HRMG 945 Strategic Compensation: Issues and Opportunities



Course Description: This class addresses the need for strategically focused compensation systems aligned to the business objectives and examines the related factors that impact employee motivation and productivity in a variety of settings and industry sectors. The course will examine and analyze the various components of compensation systems in contemporary organizations in understanding how and why they add and sustain shareholder and/or stakeholder value.

#### HRMG 946 Human Resources and Technology

Course Description: This course offers the students the best practices in use of technology in the human resources field. Topics include the use of human resources information systems, web-based human resources used to develop and support the various functional areas of human resources.

#### HRMG 947 Managerial Analysis & Team Dynamics

Course Description: This course will teach students how to develop proficiencies needed for individual efficiency as a manager, including critical thinking, business analysis, problem-solving, leadership, group dynamics and teamwork. The course offers a study into how managers and employees work in groups for the achievement of organizational goals. It will equip students with the capability to handle work teams, to work in teams effectively, and to gain results via team dynamics.

#### HRMG 948 Managing Global Diversity

Course Description: This course discusses the benefits and challenges of managing diversity in the workplace. The students will analyze various ways to develop a positive, nondiscriminatory and productive work environment. In addition, the course focuses on workplace issues related to differences in gender, race, cultural ethnicity, age, and social class.

#### INBS 910 Fundamentals of International Business

Course Description: This course provides an introduction to globalization and the cultural, economic, political and legal environments of international business. The course helps students understand international trade, the role of the government in trade and have an understanding of the international financial system. It will familiarize students with concepts of international strategy, marketing products in the international arena and international staffing policy.

#### INBS 911 International Financial Markets

Course Description: This course analyses the international financial markets. Topics include foreign currency, international money markets, banking, and capital markets.

#### INBS 912 International Law

Course Description: This course explores the legal considerations that apply to U.S. businesses abroad and explores issues of contract negotiations, international conventions, and current multinational business issues such as dumping, products liability, patents and copyrights. Topics about sovereignty, legitimate war, humanitarian intervention, economic aid, and human rights are discussed. The course explores international law concepts and issues such as, the law of treaties. It will discuss a series of international law topics and issues, including the settlement of international disputes, and the law of armed conflict.

#### INBS 913 Global Strategic Management

Course Description: This course examines the fact of Globalization, and how managers in multinational firms struggle with a complex and rapidly changing international economic environment. The course introduces the business skills of understanding and managing strategic issues in international environment. It will also focus the understanding of the need for awareness of a change in organizations'™ internal and external environments.

#### INBS 914 International Monetary Economics

Course Description: The course offers an analysis of the balance of payments and foreign currency markets. Topics include the international payments system, foreign investment and debt.

#### INBS 915 International Human Resource Management

Course Description: The course focuses on the role of the manager in international organizations. It creates awareness of differing legal environments. Topics related to functional areas of human resource management - staffing, compensation, training, and labor relations are discussed.

#### INBS 916 Global Marketing and Strategy

Course Description: This course will study marketing and strategy from a global perception. It will focus on the results of international trade and the political, legal, financial and cultural situations on marketing joint decisions. The course will help students understand the analysis and plan of marketing strategies for various international environments.

#### INBS 921 International Business Practicum

Course Description: This course is a capstone course that focuses on integrating theory and practice through the application of international business tools and methods. The course will feature guest speakers that are experts in various aspects of international trade.

#### INMG 910 Principles of quality management

Course Description: This course covers the philosophy and concepts of quality management with an emphasis on tools and techniques of quality management for continual improvement in quality and productivity. Students learn techniques to improve organization performance and competitiveness.

#### MBAN 997 Research Methods

Course Description: This course provides an introduction to some of the important topics in the general area of research methods, and to do so in a non-intimidating and informative way. Topics include the role and importance of research, problem selection, sampling, measurement, data collection, descriptive and inferential statistics, experimental and nonexperimental research, quasi-experimental research, and writing and presenting research. The course of study will give the student a solid background of knowledge for developing a research paper and subsequently, submitting it for publication to a refereed journal.

#### MBAN 998 MBA Project

Course Description: By arrangement with project advisor. A nominal number of 2 or 4 credit hours is expected toward to M.S. degree if the Project Option is selected. Conduct independent research of an approved topic in business administration, prepare a

technical report, and defend it before a faculty advisor.

#### MBAN 999 MBA Thesis

Course Description: Preparation of an independent research or thesis and defending it before a committee composed of a number of faculty designated by director of the M.B.A. program.

#### MGTN 901 Principles of Management

Course Description: This course features traditional management principles such as planning, managing, leading and controlling. Two textbooks will be utilized during the semester: one for theory & practical tactics of management, and another for self and other-awareness of people principles of management. Students will read and discuss the two texts and engage in classroom activities and business writing. There will be individual and group written essay, and oral presentation assignments. We will include a review of Dual Motive Theory, understanding how brain functions of ego and empathy can impact behavior and relationships.

#### MGTN 902 Business Statistics

Course Description: With many unfamiliar concepts and complex formulas business statistics can be confusing and demotivating experience for students that do not have a strong mathematics background. They can have trouble recognizing the importance of studying statistics, and making connections between business problems and the statistical tool that can be used to solve them. This seventh edition of Business Statistics: For Contemporary Decision Making has been designed to provide students with better explanations and examples thus providing a smoother path to understanding and the ability to choose the correct techniques to apply for a given problem.

#### MGTN 910 Managing within the Law

Course Description: All too often in dealing with employees, managers and supervisors without proper employment training create problematic situations that can turn into expensive lawsuits, tarnish an employer's reputation, and waste precious company resources. This course addresses critical employment law areas that leaders, managers and supervisors confront on a daily basis. This course provides students with skills to identify and effectively resolve workplace issues, while minimizing personal and organizational liability. Topics include hiring, performance reviews, investigating and responding to complaints, wage and hour compliance, preventing unlawful harassment, disability accommodation, unionization, workplace safety, employee privacy, social media, and employee termination.

#### MGTN 915 Organizational Teamwork

Course Description: In this course, students will learn and apply the skills required for effective teamwork that applies in many industries. This course provides the student with the opportunity to apply course concepts to organizations in the private, non-profit, and public sectors. Examines the role of teamwork in organizations including: the rationale for teams, communicating, effective team meetings, resolving team problems, motivating, collaboration and intercultural implications. Read current periodicals, analyze case studies and source online material to gain a better understanding of organizational teamwork in the different sectors. Students are expected to participate in discussion and teamwork online. We will include a review of Dual Motive Theory, understanding how brain functions of ego and empathy can impact behavior and relationships.

### MGTN 916 Principles of Public Relations

Course Description: This course invites students to learn the language of the field of public relations. Also, students will learn to distinguish between the field of public relations and its related fields: marketing, advertising, public affairs, publicity, and propaganda. Students will compile actual research data about a hypothetical public relations campaign. Students will apply basic public relations principles to case studies. For the final exam, students will deliver effective public relations presentations. Students must come to class with their computers. Submit your resume to the ITU EMS ([ems.itu.edu](mailto:ems.itu.edu)) before the first class, because you will be introducing yourself to your classmates.

### MGTN 917 Non-Linear Strategies for Business Success

Course Description: This course is designed to give students an edge in tomorrow's hyper competitive business landscape revolving around entrepreneurship, innovation, and leadership. Knowledge of the underlying operating system of Field engagement is key for tapping innovation, unlocking potential and activating the hidden drivers required to succeed. For decades researchers such as Stanford's William Tiller and Columbia's Brian Greene have been studying these unseen forces and their profound implications for everyday life. Successful next-generation leaders require practical strategies born of an understanding of these concepts of entangled fields, game theory, chaos theory, qubits and waves. Students will walk away with a new framework to use for their careers and personal lives. Moreover, students will discover how to leverage a new triple bottom line that benefits not only themselves, but the world.

### MGTN 920 Production and Operations Management

Course Description: The course covers the transformation of product and service requirements into capacities, processes, and operating organizations. It consists of product design, production options, quality control, facilities location and design, supply requirements planning, and project management. This course will help students to understand theories, problems and methods applicable to the operations of various business organizations. The focus is on decision making in operational areas such as: facility conditions and use, control and manage resource inputs and outputs, types of transformation procedures, and performance evaluations.

### MGTN 922 Quality Control Management

Course Description: This course focuses on the understanding of the effective quality management. It provides the quality basics, benefits of quality and quality philosophies. It also provides a basis approach to teamwork, team types, team building dynamics, to the analysis of continuous improvement. The problem solving process, and customer-supplier relationships are addressed in quality control management. The responsibility and roles of the leaders, including managers and facilitators is emphasized. The course discusses the methods of quality control and improvement tools. The key factors of the course are defining quality principles, and developing effective systems or processes for monitoring and improving quality control. Emphasis is on decision making and applications in quality improvement.

### MGTN 923 Lean Six Sigma

Course Description: Six Sigma has been a proven methodology for solving problems in many of the business areas in many fields. The methodology helps in producing a high quality product or service, using techniques and principles that ensure excellence. The Six Sigma methodology incorporates many of the business, statistical, quality, and

project management principles and practices with a goal of creating a systematic and data-driven decision making environment. Many of the successful companies utilize the principles of Six Sigma to meet growing customer expectations and to deliver survive and excel in today's competitive marketplace. This course covers an overview of the Six Sigma principles, process, and implementation, and provides required information for taking six-sigma certification examination such as Green Belt/Black Belt.

#### MGTN 924 Business Continuity Planning

Course Description: The course will teach the students how to manage the completion and day-to-day tasks related to making Business Continuity Plans and Procedures, and organizing Disaster Recovery functions. The course will equip the students with the skills to be responsible for interfacing with management and auditors, and implementing and supporting the following services: - Contingency Planning - Disaster Recovery - Business Recovery - Risk Management

#### MGTN 925 Impact of Intellectual Property in a Global Economy

Course Description: This course provides an overview of intellectual property law, including trade secrets, patents, trademarks, and copyright. Key objectives are to help students develop an appreciation for the importance of intellectual property as a key economic driver in the modern global economy and to assist them in developing competence in IP management, whether they are technology or business professionals.

#### MGTN 930 Strategic Operations Management

Course Description: This course is designed to give both a theoretical and practical background in strategic management. Strategic operations management concerns the essential activities of directing the varied processes of both manufacturing and service enterprises in both the domestic and Global environments. The course will analyze case studies related to the real challenges of management. It will develop awareness in business matters significant to fast moving high tech entrepreneurial environment. In addition, it will cover the strategic aspects of operations management.

#### MGTN 935 Contracts and Purchasing Management

Course Description: According to the United States Bureau of Labor Statistics, the employment of purchasing managers, buyers, and purchasing agents is expected to increase 7% through the year 2018. This course addresses the expanding needs of private industry, local, state and federal agencies for professionally trained procurement and contract specialists. More specifically, this course provides an overview of the basic concepts and practices in procurement and contract management, with an emphasis on these activities in the small business environment.

#### MGTN 942 Critical Thinking Strategies in Decision Making

Course Description: This course applies corporate finance concepts and accounting tools to make management decisions. Students learn to evaluate organizational performance from accounting information, methods to evaluate financial alternatives, and create financial plans. Other topics include financial statements, concept of depreciation and inventory methods, cash flows, business valuation, working capital, cost behavior, cost allocation, budgets, and control systems. We will also discuss Dual Motive Theory in terms of Ego/Empathy, ethical/unethical behavior to understand how brain functions can impact human behavior and relationships.

#### MGTN 943 High-Technology Entrepreneurship

Course Description: This course is offered for those planning to undertake an entrepreneurial career in starting and building an international company in the high-technology area. A special effort is made to take advantage of ITU's proximity to the entrepreneurial community in Silicon Valley with its fundamental international business thrust. An integrative business plan for a new company in the technology arena is an integral part of the course. Gain an overview of the entrepreneurial process. Topics covered include: addressing new business opportunities, global trends, high technology, business model design, start ups, venture capital process and tools. This course will cover the basics of building a business plan to meet emerging needs. Concepts and techniques of social entrepreneurship will provide the foundation for learning and communicating. Bring your resume to the first class, because you will be applying for a critical role on an entrepreneurial team. Topics that your team will address are a consensus choice among: • Case Studies • Principles Special attention will be paid to students'™ demonstration of successful presentation techniques.. Dual Motive Theory: Student project: Consilience, Entrepreneurship and You is about the CEO in you. You represent a set of assets that you are in charge of • mental, emotional, informational and intellectual.

#### MGTN 944 International Management

Course Description: This course studies the role of managers in global markets. Topics include the external economic and political environment, international strategic planning, partnerships, global human resource management, managing technology, product and service design, ethics and leadership. The course utilizes innovative techniques and case study analysis from a variety of national, and multinational firms.

#### MGTN 945 Pitching a Business to Venture Capitalists

Course Description: In today's extremely competitive world of raising money for startup companies, it is absolutely critical to have an effective and well-conceived pitch deck to compliment your vision and strategy. Only 1 of every 200 business plans submitted to venture capitalists (VCs) gets funded, so it is vital to present a well thought-out presentation that includes all of the elements that VCs (or any type of potential investor) will be looking for in deciding whether to invest in your company or not. Whether you are interested in starting your own company someday, want to work for a startup, or just want to learn more about venture capital, Silicon Valley and startups in general, this will be a great opportunity to discover how startup companies have successfully raised money – and how you can too!

#### MGTN 945W Building a Pitch Deck for Venture Capitalists Workshop

Course Description: Participants will form teams (companies) of 2-4 people to take on the roles of a real life startup company (eg. CEO, CTO, VP Sales, VP Marketing, etc.) During the course of the semester these teams will work diligently to create a pitch deck (of a real or fictitious company) that includes all the elements outlined in MGTN945. Up to 10 of these teams will present their pitch decks to a voting panel of ITU professors and fellow students and also get feedback on their concepts and presentations. The winning team(s) will then get the opportunity to take their pitch to a Silicon Valley venture capitalist! This workshop is designed for current or future entrepreneurs or those who want to better understand what it takes to fund and/or work at a startup company.

#### MGTN 947 High Performance Leadership

Course Description: What does it take to build a high-performance unit? The focus of the course is on individuals who are in the leadership positions, particularly the middle and

upper-middle management in contemporary complex organizations. The course shows that traditional methods of management may produce adequate levels of performance but prevent excellence from developing. More recent or new approaches to leadership will be discussed and lead to a high-performing system.

#### MGTN 948 Project Management

Course Description: This course provides an overview of project management history, culture, methodologies, leadership and strategic planning. The course introduces important tools, such as work breakdown structure, scheduling, earned value analysis, and risk management. Case studies from a variety of organizational settings are discussed. The course discusses the 5 processes that must be done for project success: Define, Organize, Execute, Control and Close. The strategic implications of projects will be considered with respect to the organizational vision.

#### MGTN 949 Organizational Theory

Course Description: The course examines the role of perception, learning, motivation, leadership, organizational culture, communication, group and team dynamics, conflict, stress, and other factors that affect individual job performance and overall organizational performance. In addition, the course describes the relationship between the dual motive theory and the human behavior. Emphasis is placed on underlying causes of human behavior in organizations, and how to effectively manage behavior. Case studies are used to enhance learning and integration of key management skills related to managing human behavior at work. We will include a review of Dual Motive Theory, understanding how brain functions of ego and empathy can impact behavior and relationships.

#### MGTN 950 Project risk management

Course Description: This course explores various ways to identify, and analyze the full range of project risks. It will also explore the six risk management: risk management planning, risk identification, qualitative risk analysis, quantitative risk analysis, risk response planning, and risk monitoring and control. The students will use case studies to learn risk management techniques.

#### MGTN 951 Business Communications

Course Description: Communication is an essential component in every management task. One objective of this course is to provide a framework to approach communication challenges and make media, message, structure, and style choices. Another objective is to develop the oral and written communication skills required of managerial leaders. Barriers to communication, particularly cultural barriers will be analyzed. We will include a review of Dual Motive Theory, understanding how brain functions of ego and empathy can impact behavior and relationships.

#### MGTN 952 Business Ethics

Course Description: This course introduces ethical decision making in business environment. It examines the individual, organizational, and macro level issues. The course does not attempt to determine correct ethical action. In the complex business environment in which managers confront ethical decision-making there is no absolute right or wrong answer in most cases. Since there is no general agreement on the correct ethical business norms, critical thinking and relevant decision making are examined. We will also discuss Dual Motive Theory in terms of Ego/Empathy, ethical/unethical behavior to understand how brain functions can impact human behavior and relationships.

#### MGTN 953 Business Law

Course Description: This class is intended to inform and educate graduate business students of the legal requirements and risks associated with managing, owning and operating a high tech business in today's global economy.

#### MGTN 954 Advanced Project Management

Course Description: This course offers a study of the human and the operational sides of project management. The human side includes discussion on negotiating and conflict management, leveraging diversity and selling project management. The operational side includes scope control techniques, risk management, and organizing for success. The students will learn how to effectively engage the project team, deal with the inevitable conflicts and use intellectual and cultural diversity to encourage creative problem solving.

#### MGTN 966 "Managing Emotions, Managing Self and Others"

Course Description: This course will describe the aspects of Emotional Intelligence and managing yourself and others, starting with self-awareness, empathy, and regulating emotions for self and others to sustain healthy and authentic relationships. Other aspects include positive and negative emotional contagion, EI's effect on morale, leading and professionalism. We will include a review of Dual Motive Theory, understanding how brain functioning of ego and empathy can impact behavior and relationships. Finally the class will study evaluations of cognitive, emotional and social competencies and scholarly research showing how humans flourish.

#### MISY 910 Business Database Applications

Course Description: This course provides a basic overview of the concepts, principles, skills and techniques of business database systems and of database application system development. The course provides an approach to the design and use of databases for business applications. The study focuses on query languages and application generation. Use of database software applications are a necessity in current business environments.

#### MISY 911 Business Telecommunications

Course Description: The course offers an overview of communications technology used in many business applications - local area network, wide area network, broad band network, wireless and voice network. The course helps the students understand the role of internet protocols. In addition, it provides training to analyze network requirements, design and implement local area networks.

#### MISY 912 Information Resource Management

Course Description: This course explains the concept of viewing information systems resources from a strategic resource standpoint. The course will provide pragmatic tools for implementing the IRM within the organization. Topics will include Information System outsourcing, total cost of ownership, Information System planning and strategic analysis, management of IT human resources, traditional project management theory, and project management techniques. We will include a review of Dual Motive Theory, understanding how brain functions of ego and empathy can impact behavior and relationships.

#### MISY 913 Managing Global Information Systems Projects

Course Description: The course helps the students learn how to plan and manage global information systems projects by focusing on initiating, planning, executing, controlling



and closing projects. Topics such as integration, scope, timing, cost, quality, human resource, technology, communications, risk and procurement are discussed. The students will learn how to monitor project plans and communicate reports to clients.

#### MISY 914 Information Systems Innovation

Course Description: This course provides the tools and the skills to leverage emerging information technologies in order to create new business opportunities for both new entrepreneurial ventures and traditional firms. The course helps the students to understand, evaluate, and apply difficult topics such as new innovative and entrepreneurial information technologies.

#### MISY 915 Management Information Systems

Course Description: This course explains the concept of managing information systems as a part of a broader socio-technical system and their impacts on people and processes in the business environment. Critical thinking is an important and essential part for the understanding of important issues associated with the management aspects of information systems. The course focuses on how the organization has used and can use its information resources to best serve its needs. MISY -916 Human-Computer Interaction (3) Prerequisite: Graduate standing. The course focuses on key factors in Human-Computer interaction. Topics include Design elements, test procedures, experimental tools, and human-computer environments contributing to the development of successful user interfaces are discussed. Additionally, research topics will be explored in the areas of design principles, methodologies, implementation, and evaluating of user interfaces.

#### MISY 916 Human-Computer Interaction

Course Description: The course focuses on key factors in Human-Computer interaction. Topics include Design elements, test procedures, experimental tools, and human-computer environments contributing to the development of successful user interfaces are discussed. Additionally, research topics will be explored in the areas of design principles, methodologies, implementation, and evaluating of user interfaces.

#### MISY 917 Business Decision Support Systems

Course Description: Focus of this course is to study decision making process in business environment. Managerial role in decision making and steps involved in the process will be discussed. Theoretical modeling of decision making and practical applications will be explored using Microsoft Excel and/or other software packages. Part of the course, decision support models such as break-even analysis, goal seeking, linear programming, decision tree analysis, statistical modeling, etc. will be used in defining decision support systems to address various business scenarios.

#### MISY 918 Data Mining and Business Intelligence

Course Description: This course teaches the students business potential of big data and analytics, data warehousing, how to develop and retain data warehouses, and how to use this data for business benefit and as a source for business intelligence. Business intelligence is the use of logical software devices to study big data about an organization and its competitors in business planning and decision-making. In developing data warehouses, the course will teach the students the inter-relationships among operation, decision support structures, plan and the removal and cleaning process used to create a high quality data warehouse. Data mining theories and the use of data mining devices and techniques for decision-making and for creating business intelligence are discussed.

#### MISY 920 Software Development Process Management

Course Description: This course helps the students to understand the software development process at both the project and organization levels. In addition, it provides the students the tools to analyze software cost and schedule transaction issues. And it teaches them how to apply the principles and techniques to practical situations. Topics include statistical decision theory, software risk management.

#### MISY 921 Knowledge Management

Course Description: The course helps students to understand a framework and a clear language for knowledge management concepts, and define the Knowledge Management Cycle and Knowledge Management Models. In the addition, the students will be able to describe how valuable individual, group and organizational knowledge is managed throughout the knowledge management cycle. This course will equip the students with the skills to define the different knowledge types and how they are captured and stored, to identify some of the key tools and techniques used in knowledge management applications, to evaluate major KM issues such as knowledge ownership vs. authorship, intellectual property and knowledge sharing incentives, and to know the major roles and responsibilities in knowledge management implementations.

#### MISY 925 Public Information Management

Course Description: The course presents an introduction to computers and information management systems in public sector organizations. Topics include data management, data analysis, public systems analysis, algorithm development, data base design concepts, and design support systems. The course focuses on the study of database and network technologies; the influence and relevance of information systems in public agencies; and the review of issues of ethics, and security as related to Information Systems.

#### MISY 926 Strategic Management of Information Technology

Course Description: This course addresses some contemporary issues faced by general managers – e.g., globalization, and time compression. The course defines the information technology strategies of an organization. It will examine principles and concepts of strategic information technology systems, and systems development as it relates to information technology management strategy.

#### MISY 930 Business Information Systems & Technologies

Course Description: This course provides the fundamentals of information systems and technology in business. The focuses are on the integration of business functions, and the strategic information systems. Topics include project planning, time, risk, and resource management in many business applications. In addition, the course will introduce information systems building and prototyping.

#### MKTN 950 Entrepreneurial Marketing

Course Description: This course provides entrepreneurs with an understanding of marketing for new and small enterprises. It addresses marketing strategies. The Students will apply marketing concepts, such as creating and nurturing relationships with new customers, suppliers, distributors, employees and investors. This course brings together theory and practice to develop a comprehensive entrepreneurial business marketing plan.

#### MKTN 951 Competitive Marketing Strategies

Course Description: The course offers strategy development by discussing important analysis of various cases from consumer, supplier, and technological markets; production and service businesses for-profit and nonprofit sectors. The students will learn how to build a marketing plan.

#### MKTN 952 Supply Chain Management

Course Description: The course offers a critical analysis of retailing strategies and e-business sites to expand the company's markets, to provide service customers, and to increase the sales. The course also discusses the critical supply chain issues involved in commerce including inventory management, transportation, procurement and warehousing. A comprehensive study of the concepts, processes, and strategies used in the development and management of global supply chains. Supply-chain management (SCM) is a systems approach to managing the entire flow of information, materials, and services from raw material suppliers through factories and warehouses to the final end-customer. Specific topics include global supply chain management, procurement, electronic commerce, information technologies, and logistics activities. SCM represents a philosophy of doing business that stresses processes and integration. This course will be taught through the use of textbook materials, outside readings, and case analysis. Overview of technologies for SCM will be discussed with focus on SAP SCM solution. Benefits of technology for the companies to run their Supply Chain in global environment.

#### MKTN 953 International Marketing

Course Description: The course presents to the students the major factors of the international marketing decisions. The student will learn about the forces that influence the global marketing environment. The course introduces students to principles, policies, procedures, ethics, and techniques used in efficient and effective international market. International product, price, promotion, and distribution issues are discussed.

#### MKTN 954 Marketing Research

Course Description: This course introduces the methods for collecting, analyzing, and interpreting data relevant to the marketing decision-making. The course focuses on structuring marketing problems, understanding the different sources of marketing research data, using particular techniques for analyzing marketing research data that helps to make better marketing management decisions.

#### MKTN 955 Strategic Application of Technology in Marketing

Course Description: This course introduces technology efficiencies into the value chain that become critical to corporate strategy. The course will review the applications of the current and emerging technologies to the strategic creation, maintenance, and communication of value within the corporate value chain. In addition, it will provide the students with an overview of strategic technology process and its principal concepts. Students are encouraged to present actual marketing issues, to bring the ideas from Silicon Valley companies for discussion.

#### MKTN 956 "Comparative Studies of MNC FDI and International Trade"

Course Description: Close linkages between ITU's offerings and the current needs and technologies of industry through active involvement with Silicon Valley leaders. Courses are created at the speed of technological innovation in the Silicon Valley with special emphasis on strong application for students to achieve competency in their

respective fields of study. Proficiency in public speaking, technical writing, and critical thinking are integral parts of degree requirements. The course emphasizes technologies and studies pertaining to sustainability and environmental protection.

#### MKTN 957 Consumer Behavior

Course Description: The course focuses on how to assess customer behavior and interprets this knowledge into marketing strategies. Topics include customer satisfaction and dissatisfaction; the role of quality, TQM, cycle time. In addition, the course introduces concepts such as, motivation, perception, knowledge, attitude, and culture on customer decision making. The course is designed for students interested in consumer, service, high-tech, or not-for-profit marketing. We will also discuss Dual Motive Theory in terms of Ego/Empathy, ethical/unethical behavior to understand how brain functions can impact human behavior and relationships.

#### MKTN 958 Marketing Management

Course Description: This course presents an approach to understand and manage the marketing function. The students will learn how to develop a written marketing plan to determine and integrate elements of a marketing strategy. Topics include market segmentation, positioning and research; product decisions; pricing; channels of distribution; advertising; promotion; new product development; and marketing budgets. The course will introduce the role of marketing in the U.S. economy and the interaction of marketing with specific business functions and with society.

#### MKTN 959 Advanced Marketing

Course Description: The course will explain the importance of marketing, which include market research, competitor analysis and the consumer analysis. The student will explore the marketing process, and concept. In addition, the course will provide a study of the relationship between the marketing mix, and the changing business environment.

#### MKTN 960 Effective Marketing Planning In Dynamic Environments

Course Description: This course will develop the implementation, control and evaluation plans. It addresses the practical aspects of appraisal, prediction and monitoring of market factors that impact organizational performance. The course will explain how marketing decisions contribute to developing and maintaining competitive advantage in dynamic markets.

#### MKTN 961 E-commerce

Course Description: This course provides introduction to e-Commerce and related subjects. The course will cover e-commerce infrastructure and its related technologies. Various business models used in e-commerce will be discussed in the lecture. The student will have knowledge of e-commerce when finishes this course. Fundamentally this ecommerce (ebusiness) course is designed for learners who want to become proficient in understanding the business transactions on the Internet and/or World Wide Web. Students study how to integrate the Internet into broader company marketing and strategy efforts including both the starting of an ebusiness and the adding of an ecommerce element to an existing business or organization.

#### MKTN 962 Marketing with Social Media

Course Description: Marketing with Social Media is a course for current and would be entrepreneurs, for start ups and well-established enterprises big and small who want to learn how best to spend time in Social Media. Facebook, Twitter, LinkedIn, Google+

and, of course, the king of all Social Media, business blogging will be explored in this course. Discussion will be given to the pros and cons of each social medium with conclusions drawn on where best to spend time to get maximum ROI on time spent. How best to use Social Media to get real leads, real clients and real business will be at the heart of the course. Time will be spent on the developing the personality of the online marketer, Search Engine Optimization best practices and dynamic web site building and traffic generation. Real world case studies will be explored and theory will be put into practice to see what works and what does not.

#### MKTN 963 Advertising Strategy

Course Description: The course will teach the students the new world of Marketing Communication, and the importance of advertising and e-advertising. Topics include analyzing advertising campaigns, advertisements in a structured way, brand equity through advertising strategy, advertising effectiveness and creativity, and end-to-end advertising strategy campaign.

#### MKTN 964 Brand Management

Course Description: This course offers the students the knowledge to discover, study, and understand the difficulties in the building, sustainability, and influence of a brand. In this course, students learn how brand characteristics positively shape a company's performance and future, and understand the influence and value of a brand from its formation through finishing. This course presents an outline of brand improvement; brand study; and brand management structures for retails, marketing, advertising, and promotional reasons. In addition, students discover how companies build financial assets by expanding current brands and controlling brand pricing and distribution. Further topics consist of an outline of brand history, the differences between brand equity and identity.

#### MKTN 965 Supplier/Seller Management

Course Description: This course will explain all aspects of outsourcing, including planning, finding the right vendor and negotiating effectively. Topics include relationship building, creating a culture of cooperation, and skills in dealing with vendor. The course will teach the buying and selling processes that corporations use in business-to-business transactions. The focus of the course is on the concept of selling, improving value, and meeting the needs of clients through effective questioning, analysis, sales planning and presentations. The students will learn the major phases of the sales process, the sales objectives for each phase, the client needs, and the solutions' presentation. We will also discuss Dual Motive Theory in terms of Ego/Empathy, self/other behavior to understand how brain functions can impact human behavior and relationships.

#### PMGT 900 Project Management Frameworks

Course Description: This course is designed to be the main structure related to the Project Management fundamentals for students, who look to understand, practice and improve the project execution process. This is based on the best practices & Methods of Project Management implemented such PRINCE, PMI, PMBOK, and Microsoft Framework. This is to run projects in an agile organization toward effective implementation and efficient achievements.

#### PMGT 901 Strategic Planning & Portfolio Management

Course Description: This course is designed to interpret the strategic values and vision of the enterprise's Portfolio Management. The process is to recognize the company plan

and strengthens its service offered in strategic business plan. The course's objective is to explain how a Project Management Oriented Business is able to divide the strategic planning into operational goals, which are attained by each division. Service analysis measures performance in the light of the company strategy and the business environment, with the goal of choosing and performing services that generate greatest value while incurring least risk for the business.

#### PMGT 902 Mastering Project Management

Course Description: This course offers a study of project management modules including project framework, project integration, project scope, time management, cost management, quality management, human resource management, communication management, risk management, and procurement management. The course will cover the above modules in five basic project management groups: (1) Initiating, (2) Planning, (3) Executing, (4) Monitoring, and (5) Closing. In PMGT 902 class, students will be well prepared and encouraged to take PMI's PMP exam. Students will conduct team projects which are related to their job function, education background, or career development. Through conducting team projects, students will apply the project management tools and learn how to meet the three major constraints: (1) schedule, (2) cost, (3) quality.

#### PMGT 903 Technical Skills in Project Implementation

Course Description: In this course, the students will learn practical lessons about implementing and executing Projects with reference to the best practices in Project Management Operation. It is designed to give more technical mechanism about project modules and Enterprise Project Management (EPM) such (Microsoft Project, iTaskX, Merlin and Primavera) In addition to this, it give practical applications using supporting tools to design Value Chain and process management such Microsoft Visio and Mind Manager

#### PMGT 904 Project Management & Leadership

Course Description: This course covers an overview of project management with an emphasis on Leadership, theory and practice. Through in-class activities and assignments, you will learn how to apply Leadership theory to realistic project management environments. You will develop a long-range plan for reaching your individual leadership objectives, so that when you leave this course you have a roadmap to help you in your leadership quest. You will be given self-assessment activities to help you understand your current leadership traits. One of the most important aspects of this course is that you will understand yourself from a leadership perspective.

#### PMGT 905 Project Management - Agile Approach

Course Description: This course provides you with the knowledge and tools to manage projects by providing an overview of the basics of agile project management. It provides the theory and core methodology you will need to manage projects or participate on project teams that are time sensitive and require agile project management principles. This course does not make use of any project management software application, but instead focuses on the conceptual understanding that students need to know in order to successfully manage a project in a fast paced technical environment.

#### PMGT 910 Operation Management In Project Management

Course Description: The students in course learn operative skills about the main managerial components of the organizational activities, framework and the different

types of mechanism of the operation management. In addition to this, the course focuses on the effective practices needed in project management, especially in the scope description, tasks assignment, time management, and resources allocation. On the other hand, this course gives the students advanced skills about applying the different styles of communication in Project Management.

#### PMGT 911 Contract Management & Financial Planning

Course Description: This is a practical course about designing contracts and analyzing the project budget related to milestones achievement and deliverables scheduling. In joint with this, the students will learn about the project scope and implementation phases that are needed to design the required activities and charter agreement. In addition to this, they will be learning about the Project/Program Evaluation and Review Technique (PERT), Planned Value (PV), Earned Value (EV), Actual Cost (AC), Budget At Completion (BAC), Estimate To Complete (ETC), Estimate At Completion (EAC), Variance At Completion (VAC).

#### PMGT 912 Management of Organizational Changes

Course Description: The course covers the different reasons of Management Changes and presents the factors of organizational styles management. It is designed to show the diverse structure of Operation Management that rises upon strategic or drastic changes in case of mission achievement or crisis management. After this course the students will learn how to respond on requests of changes (RFC) that acquires in running certain projects or managing organizational operation.

#### PMGT 913 Business Analysis & Design

Course Description: This course is to give deep understanding and ability to design, develop and do the analysis to establish key reporting standards for a Project, Program or an Organization. The Program/Project analysis course is designed to give analytical skills to the Program/Project Manager in order to help in designing the processes management reports and study the situational status. Accordingly, to build its perspective toward managing and performing a better structure that help in managing the implementation plan. This is to come with a significant assessment and process it effectively.

#### PMGT 914 Process Mapping & Control

Course Description: This course is a practical course that puts students in the lab of analyzing and designing the structure of operation and implementation. It talks about enterprise architecture and process mapping that is needed in Project Management and Management Engineering & Restructuring. This is to give advanced analytical skills and mechanisms toward designing and drawing the operation scheme based on Computer Assisting Software Engineering (CASE). On the other hand, it shows the monitoring and control tools needed to maintain, handle and control the projects or/and program structure for systematized implementation.

#### PMGT 915 Quality Management in Project Execution

Course Description: The Quality Management course for Project Execution is a Key subject in the Project Management Life-Cycle that assures and shows the importance of following the structural phases of Project Management Implementation and the consequence of the Document management and its influence in handling and tracking the project execution in all the dimensions: Invitation For Bidding (IFB), Request for Quotation (RFQ), Purchase Request (PR), Purchase Order (PO), Sales Order (SO),

Sign-Off, Preliminary & Final Acceptance Tests (PAT & FAT), Service receipt Note (SRN) and Service Delivery Acceptance (SDA).

#### PMGT 920 Project Cost Management

Course Description: This course is one of the most important courses that talk about the cost analysis and financial activities including estimating, job controlling, and field data collection, scheduling, accounting and designing the project operational framework from the financial point of view. This is to give a complete overview about the controlling mechanism in Project and Operation Management. Furthermore, it covers also the requirements to control uses of data from the estimate planed on certain project with the information reported from the field to measure the cost in the project and handle its contents in order to simplify and cheapen the project experience.

#### PMGT 925 Project Procurement Management

Course Description: In this course the students learn about planning the purchases and acquisition process and mechanism, where they plan their supply chain and network for outsourcing or purchasing of certain requisition and to respond to seller inquiries. Accordingly, they learn to manage the purchasing and procurement contracts for accurate and efficient implementation procedures. It focuses on showing the procedures and required assignments to outsource vendors and administer the communication with them. Furthermore, it shows the needed skills to follow on executing the required activities that the vendors provide from the service offering stage to the closing of contracts.

### **Doctorate of Business Administration**

#### DBA 810 Management Practice and Organizational Behavior

Course Description: This course focuses on the behavior of individuals and groups within organizations. Emphasis is on leadership, team development, change management and continuous improvement practices. Topics include transforming business processes and development structure, interpersonal communications, decision making, human awareness, needs and motivation, theory of organization, morale, ethical and the quality of work life. The students will apply vital, creative and innovative skills in today's financial, operational, practical and decision-making global economy. They will learn how to develop assumptions, views and purposes of organizational behavior to analyze complex conditions, identify problems and recognize significant success issues. In addition, they will learn how to evaluate solutions and develop appropriate recommendations.

#### DBA 811 Advanced Managerial Economics

Course Description: This course discusses Managerial Economics and Foundations of Management, and seeks insights from economics with current communications of approach in management. The course will be arranged in four topics: (1) Organizational economics and management, (2) Competitive approach, (3) Joint relationships among firms, (4) Strategy in the current world economy. Topics also include an analysis of the application of economic methods to the decision-making issues of managers in private and public organizations; purposes of business institutions; capital budgeting; theories of competition; costs and revenues; applying microeconomic practice and study to improve managerial decision-making.



**DBA 812 Seminar in the Sociological and Psychological Principles of Management**  
Course Description: This course discusses various approaches to management as they progress from different topics such as, psychology, sociology and anthropology. Topics consist of entry into the institution (staffing, selection, education, socialization); managerial psychology (incentive, manners, management); and efficiency in the workplace (value of work, performance evaluations, absenteeism, revenue). The study of the sociological and the psychological suppositions and suggestions of different hypothesis of management and leadership is discussed. Discussed subjects include choosing and training workers, varying the behavior of managers, and persuading organizational methods. We will also discuss Dual Motive Theory in terms of Ego/Empathy, self/other behavior to understand how brain functions can impact human behavior.

**DBA 813 Leadership Behavior and Motivation**

Course Description: This course examines theories of action and of motivation as they relate to discourse and ethical behavior, and explores their application to everyday activities in business. Course discusses theoretical and practical aspects of motivation and action on the individual, group, and organizational levels. Moving beyond conventional positivist treatment of organizational and ethical behavior, this course focuses on an interpretive approach that integrates biological, anthropological, linguistic, philosophical, and systems perspectives in a trans-disciplinary fashion.

**DBA 814 Seminar in Special Topics in Marketing**

Course Description: The course explain the principles, theories, and practice of the marketing purpose. The students will learn problem-solving methods for useful application through cases and techniques, and will study contemporary developments in marketing from educational and practitioner viewpoints. The course concentrates on the marketing purposes; recognition of consumer and organizational needs; clarification of economic, sociological, psychological, and global problems; and explanation and study of the value of marketing research.

**DBA 815 Leadership and Ethics**

Course Description: This course examines theories and applications of leadership and business ethics. Course reviews traditional leadership and ethical theories, discusses organizational leadership-ethics models from individual and systems perspective. Course analyzes specific common ethical problems encountered in business at the individual, manager, and organization levels. In addition, students will be introduced to critical hermeneutic participatory research conversations as a qualitative research approach for problem analysis and decision-making in the leadership-ethics field.

**DBA 816 Seminar in Strategic Planning in Human Resource Management**

Course Description: This course addresses in detail current human resource philosophies, guidelines and practices that concentrate on single areas of ability management in a diversity of organizational surroundings.

**DBA 817 Philosophies and Concepts of Total Quality Management**

Course Description: This course discusses the historical creation of quality assumption and practice; studies quality planning methods; emphasizes the value of getting organization dedication to quality standards; studies efficient quality control methods; explains the effect of successful Quality Management on organizations. This course also explains the theory and importance of Total Quality Management and to relate the

quality management standards to current and future operations management philosophies. Topics include quality assurance, strategic quality development, statistical quality control, employee participation, customer fulfillment, supervision and study of quality data, and ongoing improvement.

#### DBA 820 Seminar in Accounting Information Systems

Course Description: Students examine the financial methods and models. Financial analysis software is an essential part. Students will get skill using financial analysis software while finishing assignments. The course focuses on resolving realistic issues. Students will know the application problems using financial analysis software, write abstracts on financial articles, and do a proficient project studying a company's financial statements. The course focuses on the application of financial and non-financial data to a broad choice of business decisions. A range of financial decision-making devices will be used in the study of these decision-making procedures. Problem recognition, study, and decision are applied to present unsolved useful and specialized business issues.

#### DBA 821 Seminar in Auditing

Course Description: This course introduces auditing. Topics consist of the discussion of auditing purpose, audit standards, the process of auditing, audit planning, the collection of audit data, audit reporting, and current developments in auditing. A study of the topic of auditing is focusing on the audit of financial statements used for external reporting. Topics also include expert ethics, internal and prepared auditing, and assurance services. A study of an independent auditing with a concentration on audit planning, risk assessment, internal controls, evidence, audit reports and professional responsibilities is considered.

#### DBA 822 Current Issues in Accounting Research

Course Description: This is an interdisciplinary course. The readings draw from finance and economics (market effectiveness, bounds to arbitrage, and behavioral finance); and from the accounting literature (equity estimation, earnings management, and analyst behavior). In addition, the course will concentrate on present issues in accounting research. The topics include accounting history, ethics, and international accounting.

#### DBA 823 Seminar in Corporate Finance

Course Description: This course discusses financial decision making in the current corporation. Topics include credit procedures, financial operation, transaction financing, corporate venture, corporate resources of funding, capital budgeting, capital structure, financial risk management, dividend guidelines and corporate conditional claims, and international finance. Theories are incorporated into the standard concepts of risk and return, evaluation of assets and market structure. In addition, the course studies financial procedures related to corporate financial decision making and the forms of short-term and long-term financial decisions made by managers.

#### DBA 824 Seminar in Investments

Course Description: This course explains the student's knowledge of finance related to investments, asset pricing and the appropriate research methods. The course also discusses the student's endeavor to publish in a refereed journal. The academic research cover the areas of portfolio concept, equilibrium and arbitrage pricing forms consisting of mergers and acquisitions, corporate hedging, capital asset pricing model (CAPM), and efficient market hypotheses (EMH). A summary of securities and their analysis is presented with a focus on basic theoretical models such as risk and return.

#### DBA 825 Multinational Business Finance

Course Description: This course studies the international financial situation within which international and financial institutions work. It also explains the concepts and practices of global financial management. Currency options, forwards, futures, and operating exposures are taught to help students build up main proficiencies in running transaction exposures to exchange rate risk. In addition, the course explains global financing plans, interest rate tools such as futures, options, and swaps, which describe international investment strategies. The aim of the course is to teach students to assess the global financial and monetary structure, to examine and resolve issues occurring in the global financial functions of a firm, to utilize the theories of exchange rate and interest rate risk management and to create global financing and investment strategies.

#### DBA 830 Management Practice for the International Institution

Course Description: This course observes global institutions arrangements and purposes, parts of strategic planning, proper control; business and government affiliations, strategic agreements, and problems such as global agreements. The course will study legal problems related to increasing body of global institutions that reflect the interdependence of current world business. Such institutions are the United Nations, the World Trade Organization, the International Criminal Court, and many other local entities. The Management focus provides managers with the conditions required to both recognize and work within the emergent global setting of current institutions. It is very important to understand the results of strong global competition in home markets, the chances existed abroad, the consequences of currency instabilities and global capital movements with the issues and chances available by the different languages and cultures.

#### DBA 831 Seminar in International Business

Course Description: The course shows how global business is different from carrying out business within nationwide boundaries. The seminar will develop both a historical and contemporary viewpoint of international business management: the development of the regulation, determining theory and research, hypothetical viewpoints that continue to influence global business management performance, and the application's understanding of the hypothetical answers in a business enterprise. In addition, the course reviews the legal systems in many countries, which have impacted the business conducted in those countries.

#### DBA 832 Seminar in International Marketing

Course Description: This seminar develops marketing theories and competencies in international context. The course also discusses marketing instruments and research in global context. Students will know how companies apply their marketing procedures, while defining the risks and chances of global marketing. Students will study the present economic, political, and social forces in world markets, and how they have negatively changed the surroundings of marketing in such markets. In addition, the course covers the study of the creation of product, promotion, pricing, distribution approaches proper for international markets, sales management, and research in terms of company concerns and opportunities.

#### DBA 833 Seminar in International Finance

Course Description: This seminar studies global monetary economics and finance. The focus is on the learning of worldwide monetary and financial agreements, the financial

area, and financial volatility and monetary and fiscal policy problems. Topics consist of problems, such as, exchange rate instability and its effect on the actual and financial segment, currency runs, overseas liability, capital flows, and international portfolio option; World Bank and IMF rules and problems regarding financial market; worldwide financial rules; and global financial planning.

#### DBA 834 International Macroeconomics Analysis

Course Description: This course concentrates on the study of the forces that form the U.S. global stability of payments. It will provide an analysis of the effect of U.S. expansion and U.S. inflation on home and overseas interest rates, trades in, sales abroad, the dollar's rate related to foreign currencies, and the net flow of wealth involving U.S. and other countries. The course studies the application of macroeconomics instruments to the decision making practice in the world economy. Topics consist of expenditure and investment theory, government expenses and budget deficits, asset pricing, the propositions of global capital market incorporation, expansion, price increases, guidelines integrity, actual and nominal exchange rate.

#### DBA 835 International Human Resource Management

Course Description: This course discusses human resource management areas such as recruitment, education, reward, and labor in terms of doing business on international level. The course explains the goals, roles of personnel programs. Topics, such as training and development, job examination, salary administration, performance evaluation, corrective structures, safety and health are discussed. The course discusses the political, economic and social reasons that affected the global human resource management. Students will identify the human resource challenges and chances that impact international enterprises, and they will assess global human resource management strategies and policies.

#### DBA 836 International Information Technology Management

Course Description: The course explains the usage of technology in developed and developing countries. The course will review the use of technology as a deliberate and strategic competitive advantage. It will discuss precise transnational problems in implementing and using of technology including cross-cultural explanations of technology; the result of infrastructure on technology; and the accomplishment of difficult information technology projects in various countries.

#### DBA 840 Emerging Issues in Organizational Behavior and Human Resources

Course Description: An organization consists of a purpose, people, a structure, a vision and objectives. Therefore the science of organizational behavior (OB) came to understanding how individuals and groups behave, react and communicate in the framework of an organization. Topics of organizational Behavior includes topics such the organizational theory, individual behavior, motivation, team & groups dynamics, Management & leadership, organization structure and organizational culture.

#### DBA 841 Economics and Public Policy

Course Description: This course discusses the concepts of prices and markets and studies macroeconomics government rules that affect the business decisions. It looks at the hypothetical origins of competing rule options in subjects such as fiscal and monetary policy, international trade, antitrust regulation, and taxation,. In addition, it evaluates the insinuations for business decisions of different government laws as they affect the efficiency and overall work of the private sector. The course studies the difficult

boundary between the public and private sectors in the current American society, in a comparative context, both historical and international. Real world case studies offer students with a realistic understanding of the methods for organizing business-government relations at the local, state, federal, and international level.

#### DBA 842 Organization Design

Course Description: The Course discusses the Management Training Program to plan the view for enhancing managerial decision making. Organization design is a major resource of competitive advantage. Building an efficient organization structure and deliberately supporting organizational structures to sustain business strategy and results in, lower costs, enhanced customer happiness, faster time to market, better capability to adjust to changes in the market, and increased efficiency. The content clarifies how environmental features, strategic options, and technical causes impact the design of organizations. It consists of an explanation of four conventional organization designs - practical, place, product, and multidivisional -, and of four newer designs - environment, international, network, and virtual.

#### DBA 843 Corporate Planning and Environment

Course Description: The course discusses corporate responsibility and accountability of companies' environmental impacts. It studies the different drivers for corporate responsibility and the function of corporations related to the environment. The course explains the nature and efficiency of corporate answers to environmental accountability and the function of strategic planning in accomplishing outcomes. This course concentrates on the problems of building a strategic corporate planning form for an organization. Topics consist of distinctions among the function of internal and external data bases; modeling, planning and forecasting; and establishing measures of efficiency.

#### DBA 844 Legal Issues for the Modern Institution

Course Description: This course concentrates on the study of the legal procedures, trends and suggestions of rules, laws and latest court decisions affecting business. It will conduct survey and comparative study of the legal structures of nations contributing into global finance, trade and commerce. In addition, the course teaches students the political, legal and regulatory management that describes, support and limit business practice chances. There will be an emphasis on basic interactions of politics, law, ethics and corporate social accountability. Topics consist of basis of business ethics; business and the legal structure; law of private business behavior; possession and control of business; trade practices and consumer safeguard; and the official environment of global business.

#### DBA 845 Seminar in Organizational Behavior Research

Course Description: This course focuses on the organization's capability to compete over the long term. It discusses individual, group, and organization involvements raising efficiency and quality, enhancing competitiveness, increasing proficiencies, improving morale, and renewing dedication to employee participation. It will include both the scientific and systems view of behavioral science knowledge. We will include a review of Dual Motive Theory, understanding how brain functions of ego and empathy can impact behavior.

#### DBA 846 Seminar in Special Topics in Operations Management

Prerequisites:

Units: 3

Course Description: This seminar incorporates the assumption, study and practice of processes and technology management with a concentration on the use of technology structures into manufacturing and service related procedures. Students will discover the basic problems and current developments of processes management along with theories of technology and data transfer. The theories will be used in the assessment of the study and application of developing operations theories and methods, efficiency and competitiveness programs, planning and execution of operations and technology structures in defining the work of the organization.

#### DBA 847 Seminar in strategy and innovation

Course Description: This seminar introduces the innovation of new technology to build new business forms, products, and services. The course demonstrates that innovation is accountable for the stable enhancement in consumers' normal of living all over history. Essential innovation makes new markets and enhances the value of products while decreasing prices. Firms as leading the innovation have a tendency to control world markets and support the global competitiveness of their own economy. Therefore, innovation contributes to firms' achievement, economic expansion, and consumer wellbeing. This seminar will help students to understand the problems, challenging perspectives, research techniques, main answers, and unanswered issues in the area of innovation strategy.

#### DBA 848 Leadership Behavior and Conflict Resolutions

Course Description: This course studies conventional theories that leaders utilize to analyze and effectively resolve conflicts that arise on an interpersonal and organizational levels. In addition, new conceptual approaches are discussed that emphasize creativity, identity, and meaning-making within a critical hermeneutic framework, linking linguistic, cultural, philosophical, and ethical elements; and enable new strategies for negotiation and conflict resolution within business and community settings. The critical hermeneutic participatory research conversation will be the preferred approach used for its capacity to reframe situations, reach new understandings, and generate new possibilities in conflict resolution.

#### DBA 850 Technology, Innovation, and Entrepreneurship

Course Description: This course discusses the function of technology and innovation of competitive business. Students will learn processes for developing and maintaining managerial change and innovation with methods for managerial design and learning. In addition, the course discusses problems with a variety of phases in the entrepreneurial procedure. Topics, demonstrated by case studies, consist of new venture formation, marketing requirements, the business plan, ethics issues, economics of the business and financial support sources. The course also teaches students how to outline research questions focusing on the origin causes of general issues in innovation.

#### DBA 851 Managerial Applications of Information Technology

Course Description: The course teaches students file organization, information systems, hardware, software, database concepts, and data communications. In addition, the course will discuss the theory of a database and database management systems to design databases; store and recover data; show data and create reports in different business information practicing applications. Designing and implementing web pages using HTML and incorporating information in a web page are explained. Assignments examine how technology is altering the way communication is conducted, decisions are made, people are managed, and business procedures are improved. Students access

the Internet to collect data, and study business decisions using decision support techniques.

#### DBA 852 Networking Concepts and Applications

Course Description: The course concentrates on plan, building and operation of a data communications structure and computer network, and highlights data distribution. The course consists of important parts of networks with hardware, software and interfaces. In addition, the course explains the networking field. Topics incorporate local-area networks, wide-area networks, network terms and protocols, router programming, Ethernet, OSI model, cabling, IP addressing, and network standards. At the end of the course, students will be able to achieve tasks in relation to language, networking mathematics, and forms, media, Ethernet, sub-netting, and TCP/IP Protocols.

#### DBA 853 Managing Software Development Projects

Course Description: This course explains basic software project management methods. Students will learn contemporary and conventional software development methods and policies. The course also discusses the mathematical and instinctive processes used to establish the most possible plans and designs for difficult and large scale structures and projects. Focus will be on the theory and methods of directing and controlling sources for a fixed term project founded to accomplish particular objectives and goals. Students will learn the newest methods for scheduling, estimating and budgeting, selecting proper work techniques, examining and controlling, and development reporting of real results against founded budgets.

#### DBA 900 Writing and Research Methods

Course Description: This is a doctoral level course. This course brings together knowledge gained from core areas in business and will help you perform research in these topics and thereby provide the foundation to become academic researchers capable of contributing on the cutting edge of research in business areas, particularly within your area of expertise and your research interests.

#### DBA 901 Quantitative Research Analysis

Course Description: This course examines contemporary approaches to qualitative analysis in business. You will learn about and practice using such qualitative research techniques as open-ended interviewing, focus groups and the case study approach. Other topics include the use of qualitative research software, the philosophic foundations of knowledge and the effective display of data. The process, application and interpretation of biography, ethnography, grounded theory, case studies and phenomenology will be studied.

#### DBA 902 Qualitative Research Analysis

Course Description: Topics include survey design; experimental design; statistical analysis of survey and experimental data; multivariate statistical analysis including analysis of variance, multiple regression, the general linear model, factor analysis, and other methods; time series analysis; and other topics. You will learn how to interpret the statistical results contained in scholarly papers and articles. You will learn how to apply these methods using statistical software through hands-on analysis of research data sets.

#### DBA 910 Special Topics in Research Techniques

Course Description: This course seeks to provide knowledge and skills relevant for

conducting development-oriented business research. You will study advanced research methods, which will introduce you to statistical techniques, and computer-aided analysis of qualitative data. It also covers essentials of research project development, including development of topic, problem statement and annotated bibliography, review and synthesis of literature, collection of information, analysis of data and interpretation (both qualitative and numerical). It looks in detail at data collection methods, measurement instruments, sampling procedures and data analysis techniques. In addition, this doctoral course is designed to provide a comprehensive context of research in the workplace setting. Students will understand the process of carrying out inquiry in the “real world” that is scientifically based and empirically sound. Learning the overall structure of the research process, while grounding understanding in the complexity and controversies in social research, students will examine and analyze the choices of methodologies to best guide their research activities. The research project proposal sessions will prepare you for your dissertation, which in turn can be used to prepare the ground for your doctoral research.

#### DBA 911 Management and Organizational Theory

Course Description: This course develops a paradigm perspective on the nature of scientific research and theory. Influential contributors to theories of organization and individual behavior in organizations with attention to both historical context and current approaches are examined. Topics such as classical management theory; the human relations perspective; motivation, institutional theory; comparative organizational designs; change processes; the organizational-environment contingency, and systems perspectives; inter-organizational forms, organizational learning; organizational dysfunction and ethical perspectives are examined. Students take an active role in presenting and critiquing early and current theory and practice as well as relating theory and research to their own experience.

#### DBA 912 Management as a Behavioral Science

Course Description: An applied methods course in behavior management and self-control. Students acquire techniques for the management of both positive and negative behaviors in themselves (behavioral self-control) and in others (behavior management). Cognitive methods are included, as well as techniques for self-control of emotions and teaching emotional self-control to others. This course introduces students to the dual motive theory, and to the field of management, focusing on principles and concepts applicable to all types of organizations. The evolution of functional and behavioral aspects of management and organizational theory are presented in the context of political, societal, regulatory, ethical, global, technological and demographic environmental forces. The course also discusses the analysis and application of group dynamics, motivation theory, leadership concepts, and the integration of interdisciplinary concepts from the behavioral sciences.

#### DBA 913 Emerging Issues in Marketing Management and Research

Course Description: This course is designed to expose DBA/PhD students to the cutting-edge advanced research topics in marketing in order to help them to define and advance their research interests. The course is designed to help DBA/PhD students candidates develop both an appreciation for the intellectual growth of marketing as an academic discipline and a set of skills related to the practice of marketing management. Students will be exposed to the role of marketing in a modern organization and, through the use of case, seminar, and market assignments, will develop skills in planning and executing marketing programs. Students will examine the intellectual underpinnings of marketing



as a discipline by examining the development of marketing theories from both a historical as well as philosophical basis. In doing so, they will also be exposed to the basic issues involved with doing scientific research in the social sciences.

#### DBA 914 Emerging Issues in Strategic Decision Making

Course Description: This is a doctoral level course. This course brings together knowledge gained from the various functional areas in business administration in ways that will enhance your strategic decision making skills, both at the personal and organizational level. Students will be expected to bring current case studies and or readings to each class meeting in order to discuss the most current and salient points of strategic decision-making. This course also reinforces the following overarching, integrative doctoral program outcomes so that at its completion all students will be able to: 1) Demonstrate high level proficiency for problem solving, decision-making, self-directed learning, coaching, mentoring, and critical thinking skill applications in organizational settings when interacting in a leadership capacity; 2) Utilize the appropriate theoretical foundations and contributions of strategic decision-making researchers when actively participating in the development of strategic business planning; 3) Understand the use and application of statistical measures for strategic decision-making contributions to overall organizational productivity. 4) Conduct doctoral level research for making life-long contributions through publication and conference presentations in the integrative discipline of strategic decision-making. 5) Demonstrate capability to electronically locate, retrieve, and integrate strategic decision-making information resources.

#### DBA 915 Creativity as a Linguistic Process

Course Description: This course examines human creativity from a philosophical and linguistic perspectives, using the metaphor, writing, and action as text, as the heuristic process tied to creativity in the context of business. Starting with Saint Augustin's concept of time, Aristotle's mythos and mimesis, and ending with Ricoeur's dynamic concepts of emplotment and mimeses, the course examines forms of imaginative practices in the human sciences that constitute the intermediary steps in the process of understanding and creativity. Interpretation is discussed as an intermediary between surface meanings and depth meanings (creativity and innovation), and as an ontological act (of appropriation) in which the thinker must go beyond logical knowing and commit to re-understanding existing values and history on a personal, interpersonal, and institutional levels, and to project into the future. Practical applications of how creativity works, through analysis of videos, business plans, financial reports, statistical models, scientific, models, and critical hermeneutic participatory research conversations, are used as media through, by, and in which new actions can be delineated and transposed from a fictive to a concrete reality in a variety of business and educational situations.

#### DBA 916 Innovation and Creativity: Culture of Group Dynamics

Course Description: The main objective is to explore mechanisms of innovation in the social setting, and especially in working environment. Research overview will cover characteristics of the creative process from various perspectives. Applying principles of group dynamics and Creativity Signposts, the students will fashion appropriate action plans for cultivating innovative situations.

#### DBA 917 Conflict Resolutions

Course Description: This course introduces the student to Conflict Resolution. This course focuses on conflict theories, methods of conflict management, exams case

studies using contemporary and historical perspectives and analyzes conflict. Upon completion of this course students will be able to map out and analyze a conflict situation using theoretical concepts and frameworks. Course assignments are used to apply the methods learned and complement the theoretical knowledge gained from the textbook, case studies and lectures.

#### DBA 918 Creativity as a Linguistic Process

Course Description: This course examines human creativity from a philosophical and linguistic perspectives, using the metaphor, writing, and action as text, as the heuristic process tied to creativity in the context of business. Starting with Saint Augustin's concept of time, Aristotle's mythos and mimesis, and ending with Ricoeur's dynamic concepts of emplotment and mimeses, the course examines forms of imaginative practices in the human sciences that constitute the intermediary steps in the process of understanding and creativity. Interpretation is discussed as an intermediary between surface meanings and depth meanings (creativity and innovation), and as an ontological act (of appropriation) in which the thinker must go beyond logical knowing and commit to re-understanding existing values and history on a personal, interpersonal, and institutional levels, and to project into the future. Practical applications of how creativity works, through analysis of videos, business plans, financial reports, statistical models, scientific, models, and critical hermeneutic participatory research conversations, are used as media through, by, and in which new actions can be delineated and transposed from a fictive to a concrete reality in a variety of business and educational situations.

#### DBA 920 Emerging Issues in Financial Decision Making

Course Description: The course looks at current financial theories and their applications. Financial Decision Making concepts teach students key skills required for financial management joining strategic decision making theories with daily management decisions. Financial Decision Making is important to on-going development of every organization in the industry. The efficient financial management of firms, large or small, private or public is critical to the growth and financial health of any economy. Topics include three key decisions facing business: Investment, Financing, and Dividend. These topics will include: risk and return, financial decision making, project evaluation, measurement of securities and of the organization, cost of capital, a study of leverage, capital structure and dividend policy.

#### DBA 925 Seminar in Organizational Behavior Research with emphasis on Leadership

Course Description: This course presents a comprehensive, integrative, and practical focus on leadership in new era organizations. It is based on an organizing framework which shows how key components work together to form a holistic view of leadership within organizations. The course presents definitions and new perspectives of leadership that have emerged in a global era. It provides students the opportunity to review major concepts and theories of leadership; an exploration of the historical underpinnings and current concepts and practice of shared leadership; the impetus for organizational leadership; leadership and culture; inclusion; capacity-building and leadership development; and finally, the new responsibilities of organizational leadership through social activism.

#### DBA 930 Seminar in Special Topics in International Business

Course Description: The course discusses the theory and process of building up and realizing approaches for getting competitive advantage in the international business environment. Students will gain knowledge in the fields of strategic management and

global business. In the development of the study of this hypothetical work, students will also consider a diversity of empirical methods used to study the global competitive strategy practice. Students will discover the speeding up globalization of industries, and regionalization of competition, that at the same time make easy and delay the creation and accomplishment of strategies internationally.

#### DBA 940 Seminar in Administrative Policy and Administration

Course Description: The course discovers the function of public administration in current society by way of observing its hypothetical basis, ethical problems, and political environment. Topics include theoretical study and analysis of administration; the development of management theory and its following function in the public sector; managerial design, manners and change; decision making forms and active group; public administration and policy practice; the principles of public service; administrative management; and the official basis of public administration.

#### DBA 950 Operations and Information Technology Management

Course Description: The course covers the fundamental theories, principles, and issues related to the operations and management of information technology in support of the firm's business processes. You will explore the role of information technology and systems in contributing to the productivity and competitiveness of business enterprises and in enabling organizational restructuring as needed. You will explore and critique current body of knowledge, the information technology literature, and research methods.

#### DBA 990 Dissertation Research

Course Description: Students may start their dissertation research only after completing all required coursework and passing the Qualifying examination. Students will organize, prepare, present and defend their completed DBA dissertation paper.

## MASTER OF SCIENCE IN SOFTWARE ENGINEERING

### AMN 910 Linear Algebra

Course Description: This course covers the algebraic basic concepts of matrices and matrix operations, determinants, systems of linear equations, Gauss elimination, LU decomposition, vector spaces with inner product. Change of bases, transformations. Gram-Schmidt orthonormalization. Meaning and purpose of eigenvalues, eigenvectors and algorithms for computing them.

### AMN 912 Applied Mathematics Methods

Course Description: This course is intended to provide introduction and accessibility to ordinary and partial differential equations, linear algebra, vector analysis, Fourier analysis, special functions, and eigenfunction expansions for their use as tools of inquiry and analysis in modeling and problem solving.

### AMN 920 Optimization Techniques

Course Description: Basic concepts, unconstrained optimization, linear programming, simplex method, degeneracy, multidimensional optimization problems involving equality or inequality constraints by gradient and non-gradient methods.

### AMN 921 Advanced Optimization Techniques

Course Description: Combinatorial optimization, Hopfield neural network model, Simulated Annealing and Stochastic machines, mean field annealing, genetic algorithms, Applications to: Tabu search, traveling salesman problems, telecommunications problems, quadratic 0-1 & quadratic assignment problems, graph partition and graph bipartition problems, point pattern matching problems, multiprocessor scheduling problems.

### AMN 922 Advanced Applied Mathematics Methods

Course Description: No description available.

### AMN 930 Numerical Analysis

Course Description: Numerical solution of linear system of equations by direct method and iterative method, numerical least square problem, eigenvalue problem, numerical solution of non-linear systems of equations and optimization problem.

### AMN 940 Discrete Mathematics

Course Description: This course covers topics that are important in the development of computer algorithms and data structures, such as mathematical induction, asymptotic notations, recurrences, infinite series summations, graphs, digraphs, trees and counting combinatorics and discrete probabilities analysis and statistical quality control.

### AMN 952 Probability & Statistics for Engineers

Course Description: This course covers the fundamentals of probability and statistics, as well as some widely-used probabilistic models and statistical analysis methods for applications in the areas of engineering. Topics include probability axioms, random variables, densities, basic discrete and continuous distributions, sampling distribution and data descriptions, inferences on means and variances, one- and two-sample tests of hypotheses, linear regression, and analysis of variance. A free statistical computing and graphics software, R, will be used in this course.

#### CEN 940 Network security techniques

Course Description: Network security plays a key role in today's network computing environment. This course is designed to familiarize the students with fundamentals of network security issues, techniques, and applications. Topics include: introduction to computer networks, cryptography, secret and public key algorithms, authentication systems, digital signature, and secured e-mail systems. Some current hot topics, such as Internet security, e-commerce, and Virtual Private Network (VPN) will also be briefly covered.

#### CEN 943 Digital Image Processing

Course Description: The course will be designed to introduce fundamental knowledge of basic image processing algorithms and systems. It will cover image acquisition, image data structures, images operations such as, geometric, arithmetic, logical convolution, transforms, calibration, correction, enhancement. Matlab will be used to help students grasp the basic skills of processing images on digital computers.

#### CEN 951 Computer Architecture

Course Description: This course focuses on principles of computer architecture, offering students an overview of computer systems, CPU design, computer arithmetic, instruction set architecture, pipelining, microprogramming techniques, memory hierarchies and management, input/output subsystem organization, and performance measurement. Its purpose is to prepare students to understand internal organization of computers and how it affects performance.

#### CEN 956 Distributed Computing systems

Course Description: No description available.

#### CEN 960 Computer Communication Networks

Course Description: Overview, examples, ISO model, physical layer, delay analysis, data link protocols, point-to-point networks, multiple-access networks, local area networks, and selected topics.

#### CEN 996 Routing in Computer Networks

Course Description: This course introduces different routing protocols (RIP, IGRP, EIGRP, OSPF, IS-IS and BGP) as well as new developments (multicasting and MPLS). Students will learn interior and exterior routing protocols that are currently being used in the Internet. In addition, they will study multicast routing and multi-protocol layer switching (MPLS).

#### CPT 993 Internship I

Course Description: This course consists of Curricular Practical Training. According to SEVIS: "Curricular practical training is defined to be alternative work-study, internship, cooperative education, or any other type of required internship or practicum that is offered by sponsoring employers through cooperative agreements with the school." ITU provides for Internship through CPT with a variety of employers. As part of each CPT course the student has to write a CPT report and submit it, together with a questionnaire filled out by the employer, to ITU.

#### CPT 994 Internship II

Course Description: Same as above

### CPT 995 Internship III

Course Description: Same as above

### CS 810 Information Security Countermeasures

Course Description: The course covers Cyber Ethics, Basic Network Terminologies, Information Gathering & Footprinting, various attack methods like Trojans, Backdoors, Viruses & Worms, Phishing & its Prevention; System Hacking & Security, Cryptography - the most important methods without going into mathematical details, Google Hacking, Secure Coding Practices, Firewalls, IDS, Evading IDS, Wireless Hacking & Security, Bluetooth Hacking; Introduction to Cyber Crime Investigation & IT ACT 2000, Investigation Methodologies & Case Studies, Cyber Forensics.

### CS 820 Principles of Ethical Hacking

Prerequisites: None

Units: 3

Course Description: No description available.

### CS 830 Cloud Computing Security

Course Description: The Cloud Computing Security class provides students a comprehensive understanding cloud security fundamentals & advanced expertise in cloud environments. Starting with a detailed description of cloud computing, the course covers all major domains in the latest Guidance document from the Cloud Security Alliance, and the recommendations from the European Network and Information Security Agency (ENISA) with expanded material and extensive hands-on activities. Students will learn to apply their knowledge as they perform a series of exercises as they complete a scenario bringing a fictional organization securely into the cloud.

### CS 831 Data Mining

Course Description: No description available.

### CS 840 Cert Cloud and Virtualization Security

Prerequisites: None

Units: 3

Course Description: No description available.

### CS 850 Big Data

Course Description: The Big Data course will introduce the basic concepts, tools, techniques, and applications. This course will cover the most up-to-date Big Data Technology including Hadoop Distributed File System (HDFS) and MapReduce engine as well as Business Intelligence tools.

### CS 901 Network & Data Security

Course Description: No description available.

### CS 904 Bio Informatics

Course Description: The course starts with a brief introduction to molecular biology. It then investigates the main algorithms used in Bioinformatics. After a brief description of commonly used tools, algorithms, and databases in Bioinformatics, the course describes specific tasks that can be completed using combinations of the tools and Databases. The course then focuses on the algorithms behind the most successful tools, such as

the local and global sequence alignment packages: BLAST, Smith-Waterman; and the underlying methods used in fragment assembly packages. Lecture topics include Dynamic Programming for pairwise alignment; Hidden Markov Models for pattern recognition, conducting profile-based searches and transmembrane protein structure prediction; phylogenetic tree construction and RNA structure prediction; the use of SNPs and haplotypes in genomic variation, in pharmacogenomics, in genome-wide association studies and in personalized medicine. The course is self contained and does not assume any background knowledge in biology, although an interest in molecular biology is helpful. The course will be complemented by hands-on, computer lab sessions that will allow the participants to practice with some of the major tools and databases. Students will solve hands-on problems on HIV, BRCA1 gene, Å Thalassemia, etc..

#### CS 910 Coding Theory\*

Course Description: No description available.

#### CS 920 Programming Paradigms

Course Description: No description available

#### CS 921 Semantic Web

Course Description: Introduction to semantic web for inclusion of semantic content in web pages or special domain documents such that make semantic searching (instead of pure keyword searching) possible. Subjects include XML, RDF, OWL, SPARQL, logical, ontology, linked data, semantic extraction, tagging automation, semantic inference, and search optimization.

#### CS 922 Natural Language Processing

Course Description: Introduction to natural language processing including formal language theory, statistical methods, probabilistic models, hidden Markov models, computational linguistic, machine translation, speech recognition and synthesis, spoken language understanding, question answering, conversational agents, and human-machine interaction.

#### CS 923 Programming Language Theory\*

Course Description: No description available.

#### CS 925 Scala Programming

Course Description: This course is an introduction to software programming using Scala, a programming language evolved from Java. The main advantage of Scala is its versatility. It has combined features of scripting language, objective oriented language and functional programming language. The last feature is particularly useful in Web and multicore applications that require concurrent data processing. Scala has been adopted by some leading high-tech companies. For example, in 2009, Twitter announced that it had switched large portions of its backend from Ruby to Scala and intended to convert the rest. To make learning easier, we will first introduce scala as a scripting language. We will then describe its objected oriented features (including class, object, inheritance, polymorphism, etc) and finally move on to its main functional programming features (including currying, pattern matching, lazy evaluation, tail recursion, immutability, etc.).

#### CS 926 Performance Critical Design

Course Description: The course provides understanding and insight into how to construct and evaluate timing critical software systems. Timing critical software systems

are systems where a timely delivery of results and outcomes is as important as the correctness of the outcome itself. Automobile safety systems, avionics systems, medical devices, financial management systems, and building safety systems are everyday examples of this type of system. Hard and soft deadlines, periodic and aperiodic execution, mutual exclusion and protected resources, and resource arbitration will be taught and used in examples. The fundamentals underlying Rate Monotonic Analysis will be taught and discussed. The creation of multithreaded timing models for software systems will be covered by examples, sample analyses and student projects. In addition, decomposing a system for relevant timing performance will be covered, Choosing modularity so that timing performance is not impeded by incorrect module dependencies is an important but often neglected body of knowledge.

#### CS 927 Model Driven Architectures

Course Description: This course provides the student with the ability to conceive, characterize, capture, and evolve a conceptual architecture into more detailed implementations. The relationship of architecture, modeling, and Implementation will be examined. Different types of functional, behavioral, and nonfunctional modeling will be discussed. Both executable and analytical types of models will be covered. Behavioral models will be discussed in depth. State machines will be covered as the basic mechanism of describing sequential behavior. This will be extended and applied to concurrency models using concurrent state machines. Nonfunctional attributes (including execution timing) and their aggregation within layered models will be an important part of the class. Structural models will be covered as well. Other types of models involving constraints such as strongly typed programming languages and contract based programming will be included. Combinations of models and their consistency through the use of inter-model assertions. Ongoing industry work involving ISO 42010 “Standard for Architecture Description”. This discussion will formalize the idea of views, viewpoints, stakeholders, and their relationship to models.

#### CS 932 Practical Neural Networks Techniques

Course Description: No description available.

#### CS 933 Machine Learning

Course Description: Machine learning is a fast-moving field with many recent real world commercial applications. The goal of Machine Learning is to build computer model that can produce useful information whether predictions, associations, or classifications. The ultimate goal for many machine learning researchers is to build computing systems that can automatically adapt and learn from their experience. This course will study the theory and practical algorithms in Machine Learning. It reviews what machine learning is about, how it evolved over the past 60 years, why it is important today, basic concepts and paradigms, what key techniques, challenges and tricks. It also cover examples of how machine learning is used/ applied today in the real world, and expose students to some experience in building and using machine learning algorithms. This course will also discuss recent applications of machine learning, such as to robotic control, speech recognition, face recognition, data mining, autonomous navigation, bioinformatics, and text and web data processing.

#### CS 936 Formal Methods

Course Description: No description available.

#### CS 940 Network Security Techniques



Course Description: No description available.

#### CS 950 Advanced Computer Algorithms

Course Description: This course covers more complicated algorithms and their analysis, like FFTs, RSA encryption - decryption, various breaking attempts (factorization), primality verification, Diffie-Hellman key exchange, ElGamal encryption; travelling salesman, NP completeness analysis.

#### CS 960 Introduction to Data Science

Course Description: A practitioner of data science is called a data scientist. Data science leverage all available and relevant data to effectively predict a model that can be easily understood by non-practitioners. A major goal of data science is to make it easier for others to find and coalesce data with greater ease. Data science technologies impact how we access data and conduct research across various domains, including the biological sciences, medical informatics, social sciences and the humanities.

#### CS 961 Advanced Data Science

Course Description: No description available.

#### CS 979 Cryptography & Cryptanalysis

Course Description: Analyses ways to protect information during transfer in computer systems and networks. Includes the topics of cryptography, Number theoretical concepts, RSA theory, Diffie-Hellman key exchange, ElGamal Discrete Logarithm and their application and use in distributed systems, their use in secure internet services, digital signature, intrusion detection and firewalls. Some factoring methods will be studied: Fermat, Pollard Rho, Elliptic Functions.

#### GRN 597 ITU Presents

Course Description: No description available

#### LDP 200 Professional Communications I

Course Description: The Professional Communications I course supports students' writing and presenting skills, providing opportunities to practice verbal or written communication messages. Students will also engage in social learning with classmates through team activities. The class will provide textbook, business and scholarly articles as a basis for oral or written assignments, and students will work at perfecting their planning, writing, and revision skills. This course will help students succeed in future graduate coursework and build a strong foundation for communicating in the business environment.

#### LDP 300 Professional Communications II

Course Description: This course will build on student's abilities in execution of written and verbal messages, and citing of evidence using proper formats. The required textbook includes guidelines to organize and write clear paragraphs and essays in process or argument essays. Building on the Professional Communications I course, this class will feature different literature and scholarly article content, from various degree fields, which students can select for writing assignments. Students will strengthen their expertise in organizing and delivering focused communications messages necessary to inform and persuade in the business environment.

#### MISY 915 Management Information Systems

Course Description: This course provides an introduction to management information systems and explains how computers are used and managed in organizations and how such technology assists management. Topics include the strategic role of information systems for managers, a survey of hardware, software, databases and networks, types of information systems, the design and acquisition of information systems, and ethical issues in information systems.

#### SEN 760 SQA/Manual Testing

Course Description: No description available.

#### SEN 860 SQA/manual/auto/perf Testing

Course Description: No description available.

#### SEN 890 Data Structures

Course Description: Definition, design, and implementation of abstract data structures, including arrays, stacks, queues, heaps, and linked structures. Structures include hash tables, trees, and graphs. Algorithms for manipulating these structures, searching, and sorting, and the simpler graph algorithms; introduction to the analysis of some sorting and searching algorithms.

#### SEN 905 Ruby on Rails

Course Description: This course offers a comprehensive introduction to Ruby on Rails, an open source web application framework for the Ruby Programming language.

#### SEN 909 OO Programming with C++

Course Description: This class teaches Object Oriented Programming using C++. A prior exposure to C is helpful but not required as the basic concept of C programming will be reviewed. The topics covered include: Syntax of C++, classes and objects, encapsulation, inheritance, polymorphism, design for reuse, programming with objects, the standard template library, namespaces, exceptions, type casting and file input/output.

#### SEN 910 HTML/CSS Programming

Course Description: No description available.

#### SEN 911 Web Graphic Design

Course Description: The art and profession of selecting and arranging visual elements such as typography, images, symbols, audio, video and colours to convey a message to an audience. Sometimes graphic design is called visual communications. It is part of a collaborative discipline: writers produce words and photographers and illustrators create images that the web/Graphic designer incorporates into a complete visual message. - This course is an introduction to graphic design theory with a focus on web design. It explores techniques that top designers use for creating visually engaging web sites. Teaches the skills, knowledge, tools and the artistic guidelines needed for creating appealing, professional looking webpages. Distinction between vector and raster graphics; Adobe Illustrator (vector graphics), Adobe Photoshop (managing and editing raster graphics), Adobe Flash (animation), DreamWeaver (combining all through HTML).

#### SEN 920 Computer Algorithms

Course Description: Algorithm design, sorting, searching, graph algorithms, stacks, queues, and dictionary implementations, divide and conquer algorithms, dynamic

programming, randomized algorithms, amortized analysis, lower bound analysis, NP-Completeness.

#### SEN 941 Software Engineering Overview

Course Description: This course gives an overview of the whole field of software engineering. It presents techniques used throughout the software engineering process; the software life cycle; modeling techniques for requirements specification; software design; code refactoring; both, traditional and object oriented approaches are addressed. A group project gives students hands on experience developing a software requirements specification and a working prototype. This is a project-based class where students are expected to start from a narrative of the problem, and then specify output reports, analyze the problem using special data modeling techniques (entity-relationship, relational, object-oriented), design data structures, and then follow through with a prototype.

#### SEN 942 Advanced Software Engineering

Course Description: This course covers newer software development models like agile SW development, requirements solicitation, database designs, various cooperation methods for concurrent working on large projects – CVS, programming tools, build tools (make, rake, cabal), software metrics; various roles of software engineers in the development process, leadership (coaching, listening, motivation, vision, leading by example etc.)

#### SEN 943 Software Risk Management

Course Description: No course description available yet.

#### SEN 944 Software Refactoring

Course Description: Here is a definition by Fowler 1999: Software Refactoring is a change made to the internal structure of software to make it easier to understand and cheaper to modify without changing its observable behaviour. Improving the design of existing code. Various techniques and refactoring patterns. Increasing software understandability and productivity, reducing software complexity, aging, and maintenance costs. Refactoring in the context of agile development, during debugging and code review. Refactoring tools for important languages and OSs. Various categories of refactoring, small and big refactoring. Refactoring of UML design models.

#### SEN 945 Software Requirements Elicitation

Course Description: Requirements Elicitation is the process of identifying the real problems that the software stakeholder tries to solve, of defining a system and its technical environment, and of identifying the requirements of that system such that it solves these problems for users, customers and other stakeholders.

#### SEN 950 Software Architecture

Course Description: No description available

#### SEN 945 Software Requirements Development

Course Description: No description available

#### SEN 959 Principles of Operating Systems

Course Description: This course covers the basic principles of operating system design and implementation. Topics include concurrent processes, inter-process communication,

job and process scheduling, deadlock and various other operating systems concepts. Issues in memory management (virtual memory, segmentation, and paging) and auxiliary storage management (file systems, directory structuring, and protection mechanisms) will also be covered.

SEN 986 Principles of Software Design (e.g. UML etc.)

Course Description: No description available.

SEN 930 SQA/Software Testing Tools

Course Description: This course introduces the QA with test methodologies and procedures. During the course, the students go through the Manual Testing and Automation of Client/server and web based applications. The course will quickly build through each of these concepts and configuration so that by the final day of class, each student will have fully tested the application manually and convert manual test cases into automation scripts. In doing so, the students will focus on different aspects and become acquainted with additional functions.

SEN 932 Web Programming with C# and Dot Net

Course Description: No description available.

SEN 934 Principles of Database Systems

Course Description: No description available.

SEN 935 Data Mining

Course Description: The course provides an introduction to the theoretical concepts and practical applications of data mining. Data mining facilitates the extraction of hidden predictive information from large complex databases. It is a powerful new technology with enormous potential to help organizations and institutions extract and interpret important information. The course content includes the conceptual framework of data mining, descriptions and examples of standard methods used in data mining. Internet related data mining techniques are also covered.

SEN 940 Software Engineering Management

Course Description: This course covers basic software engineering elements. It focuses on techniques used throughout the software engineering process; the software lifecycle and modeling techniques for requirements specification and software design are emphasized. Both traditional and object oriented approaches are addressed. A group project gives students hands on experience developing a software requirements specification and a working prototype. This is a project-based class where students are expected to start from a narrative of the problem, and then specify output reports, analyze the problem using special data modeling techniques (entity-relationship, relational, object-oriented), design data structures, and then follow through with a prototype.

SEN 948 UI Design & Implementation

Course Description: This course introduces the principles of user interface development and the iteration of design-implementation-evaluation. We will study the important design principles to design good UI. We will see different techniques for prototyping user interfaces. We will learn techniques for evaluating and measuring usability.

SEN 949 JavaScript Programming

Course Description: This course introduces JavaScript as a programming language. We will talk about variables, data types, functions JavaScript OOP how to use JavaScript to access and manipulate BOM how to use JavaScript to access and manipulate DOM JavaScript event handling AJAX.

#### SEN 950 Software Architecture

Course Description: Definition of SA, characteristics of SA, learn how to organize a software system into the correct structural elements; architectural analysis and synthesis: key principles of SA, build a system to facilitate change and adaptation rather than building a fixed structure; techniques for SA and Software design.

#### SEN 951 Client Programming with JS/jQuery

Course Description: No description available.

#### SEN 953 Compiler Design

Course Description: This course is an introductory course on the design and implementation of compilers. It covers 4 main topics (1)The front end section includes scanning, parsing and context-sensitive analysis of the source program; (2) The infrastructure section provides the background knowledge needed to generate intermediate code in the front end, to optimize that code, and to transform it into code for a target machine; (3) The optimization section introduces optimizer, a compiler's middle section; (4) The code generation section includes instruction selection, instruction scheduling and register allocation.

#### SEN 954 Server Programming with PHP

Course Description: PHP is one of the best server-side technologies for handling Web content easily and efficiently. PHP is a free, open-source language devoted primarily to handling dynamic web pages and used by millions of sites worldwide. It can be integrated with HTML and handle databases. The course starts with the development environment and the language syntax. It introduces the concepts of OOP in PHP at different levels. It also covers the interactions with HTML web pages and databases. PHP Ajax support is introduced as the advanced topic. Practical examples and sample codes will be given. Upon successful completion of this course, students will gain hands-on experience with PHP syntax and constructs such as variables, arrays, strings, loops, user-defined functions and how to integrate HTML and PHP code to manage and process data.

#### SEN 956 The Unix Operating System

Course Description: This course focuses on the practical usage of the basic Unix operating system features. It introduces the student to the general principles of modern operating systems: preemptive multiprocessing; and of Unix in particular: shells, environment, shell variables, processes, threads, interprocess communication, the Unix file system, and shell scripts. Upon completion of this course the student will be able to work efficiently in a Unix environment, to tailor an environment to specific needs, to understand the basics of Unix system administration, to understand security risks, to write C programs that use system calls, and to write scripts for the C shell.

#### SEN 957 GUI Development with Java

Course Description: Teaches the principles of Graphical User Interfaces (GUI) and develops GUIs using Java's AWT and Swing libraries. Knowledge of and ability to use these libraries is of paramount importance in almost all of today's software

development and is not limited to development of Android Phone applications. The learning and programming of GUIs is most effective and rewarding using these Java libraries, considered by many as the best, simplest and most elegant of all GUI development tools and libraries. (Most Java GUI developers don't use any visual development tools, since the design and concept of Java's GUI libraries itself is so natural and easy to understand, that visual development tools become redundant). Teaches the basic principles of graphical user interfaces, the widget hierarchies, event handling mechanisms, event queue management, thread handling etc. It is in most ways a parallel course to Sen961 except for the language and component libraries used.

#### SEN 958 Android Phone Application Development

Course Description: Teaches the use of SDKs released by Google to facilitate the development of applications for the Android Phone. Android Phones are Linux based and are programmed in Java. This alone bodes very well for any software development on that platform: The Linux OS, the most powerful and easiest to manage of all operating systems, and the Java programming language with its superior GUI development capabilities. Knowledge of SDKs is certainly an advantage when developing for the Android platform.

#### SEN 960 SQA/Performance Testing

Course Description: No description available.

#### SEN 961 Cloud Computing

Course Description: Introduction to cloud computing, cloud architecture and service models, the economics and benefits of cloud computing, horizontal/vertical scaling, thin client, multimedia content distribution, multiprocessor and virtualization, distributed storage, security and federation / presence/ identity/ privacy in cloud computing, disaster recovery, free cloud services and open source software, and example commercial cloud services.

#### SEN 962 Web page design with HTML and Java

Course Description: No description available.

#### SEN 963 Python Programming

Course Description: Learn how to use Unix commands and your ITU Linux account effectively. Understand Unix basic: files, pipes, jobs, redirection, globing. Basic Perl and JavaScript. Learn how to design, write, and maintain a small website. Learn how to write interactive web pages using either Perl CGI scripts or JavaScript. Learn how to run a web server on unix.

#### SEN 964 OO Programming with Java

Course Description: This course focuses on the Java language as a tool for object-oriented programming. It introduces the student to the basic features of the Java language: primitive data types, terminal window-keyboard I/O, file I/O, classes, constructors and initialization, references vs. objects, access modifiers, memory maps, control structures, arrays, inheritance, function overloading and overriding, dynamic binding, interfaces, command line arguments, and exception handling. Some instruction to the platform-independent Java GUI API with Swing will be provided.

#### SEN 965 iPhone Application Development

Course Description: This course provides a training in iPhone application development

including: Introduction to Objective-C; iPhone technologies: multi-touch interface, accelerometer, GPS, maps, proximity sensor, dialer, address book and calendar. It helps students to understand the business aspects of an application development.

#### SEN 966 Advanced iPhone Application Development

Course Description: This course teaches in depth the features of Objective-C, the UI class library, its use in I-Phone application development, the architecture of I-Phone applications, event handling mechanisms, exceptions, threads; the use of Interface Builder, and the Quartz library in writing high quality, complex i-Phone applications.

#### SEN 967 Web Programming with Ajax

Course Description: This course provides a comprehensive introduction to AJAX, the most popular web technique for creating better, faster and more interactive and user-friendly web applications. The students will not only learn the basic concepts and the low-level implementation of AJAX technology but also be introduced a set of popular AJAX toolkits.

#### SEN 968 Design and Maintenance of commercial web sites

Course Description: This course focuses on the basic concepts of setup, designing and maintaining commercial websites. It introduces both the principles and skills of building websites that people will visit, use, bookmark and revisit. It covers the entire website building process from server setup and site planning to the designs of both the server-side storage and the client-side presentation.

#### SEN 970 OO Programming with Objective-C

Course Description: This course focuses first on teaching the Objective C language, its syntax, design, features, and capabilities, then on introducing the Cocoa Library, then on developing GUI applications using Interface Builder. Objective C is the principal language for application development on Apple's Mac OS X and iPhone. On the Mac OS it is used together with Cocoa (the NS class library) and on the iPhone together with the UI class library. The course teaches in detail the syntax and features of the language, supported by many programming examples, drill quizzes and homework. It will use the Cocoa API and the Interface Builder to develop example applications for the Mac with a graphical interface. It starts with development of OC programs on the command line. Later the X-code IDE together with the Cocoa library and IB will be used for development. No textbook is used for the lecture, instead the student is given lecture notes on this website, that explain the whole material.

#### SEN 972 Java EE Programming

Course Description: No description available.

#### SEN 974 Client/Server and Internet

Course Description: No description available.

#### SEN 975 Application Developmt with GWT

Course Description: No description available.

#### SEN 982 Oracle Database Management/Administration

Course Description: This course introduces Oracle as a practical example of a widely used database system, teaches basic database conepts, data definition and manipulation languages (SQL), general architecture of database management systems,

transaction management, concurrency control, security, distribution, and query optimization.

#### SEN 985 Artificial Intelligence

Course Description: This course introduces the foundation of simulating or creating intelligence from a computational point of view. It covers the techniques of reduction, reasoning, problem solving, knowledge representation, and machine learning. In addition, it covers applications of decision trees, neural networks, support vector machines and other learning paradigms.

#### SEN 991 Computer Graphics

Course Description: Historical development of computer graphics, black and white graphiCS programming, color raster graphics, resolution and memory requirements, look-up tables, vector graphiCS and matrices, surfaces, rotation & scaling, graphiCS primitive, and transformation.

#### SEN 992 Advanced Computer Graphics

Course Description: The course gives students hands-on experience and thorough understanding of the most important computer graphiCS principles. It uses Java and its built-in graphiCS capabilities to give the student programming experience in 2D and 3D computer graphics, coordinate transformations, linear 2D and 3D transformations, projections, 3D geometry; color computations, RGB and CMYK color systems, simulation of curved surfaces through Gouraud and Phong shading, hidden surface removal through the Z-buffer technique; also, some animation principles. Introduction to the most important Computer GraphiCS hardware.

#### SEN 993 Computer Graphics with WebGL

Course Description: HTML5, released in March 2011, brings with it a variety of enhancements, including enhancements to the JavaScript language and powerful 2D and 3D graphiCS capabilities. They consist of a library of function calls of the canvas element's rendering context, that are embedded in JavaScript. Another feature is the use of shaders, that are programmable portions of the rendering pipeline. These must be programmed in the OpenGL shading language.



## MASTER OF SCIENCE IN DIGITAL ARTS

### CS 930 Programming Perl Script

Course Description: Tcl/Tk is a Swiss army knife of programming languages, giving you the ability to enhance your programs, extend your application's capabilities. This course is designed for CS/CE major students who might be interested in Tcl programming. We will start from the basics and cover topics such as: ?scalar data type ?command evaluation ?control flow commands ?procs ?string commands ?regular expressions ?array data type, array commands ?sourcing other files ?command line arguments ?subprocesses with eval and open

### CS 931 Intro Programming Tcl/Tk

Course Description: Perl is the ever-popular, flexible, open source programming language. This introductory PERL course was for CS / CE students who have a background in computer programming and using computer systems, like Linux or Unix. Topics to be covered in this course include: Basic syntax and simple program writing Pattern Matching with Regular Expressions Flow Control Arrays, Hashes and Complex Data Structures File and Directory I/O Subroutines and Scope CGI Scripting using CGI.pm

### MMM 710 Digital Media Distribution

Course Description: The business of media is distribution. It is the art and method of maximizing profits in the delivery and consumption of your work. But the business model and methods of media distribution now changes and evolves at ever increasing rates. This course will expose students to industry concepts of networks, life-cycles, ultimates and windows, as well as how those concepts apply to new media such as VOD, apps, tablets, clouds and beyond. Upon completion, students will have an understanding of media business model fundamentals and be prepared to position themselves at the vanguard of the rapidly changing world of digital media distribution.

### MMM 720 Producing Digital Media

Course Description: The skills necessary to produce today's media are more demanding than ever. Whether it is movies, games, motion graphics, interactive apps and other new media, this class will help students apply universal business production processes essential to take a media project from concept to completion. Topics covered in this course include concept and story development, pre-visualization, bidding, budgeting, financing, scheduling, talent and asset management, and distribution.

### MMM 777 Media Assets & Pre- visualization-Multi-media App Production Workshop

Course Description: Developing mobile apps can be a complex and challenging process. This course instructs and informs students how to organize media assets, navigation charts and finally integrate it all into an iOS or Android app. Non-programmers are welcome to this workshop.

### MMM 810 General Production Pipelines

Course Description: This course covers the general procedures and methodologies to produce a production pipeline from start to finish. One will be lead through the production process breaking down each phase in a step-by-step fashion and will be introduced to easily applied principles of scheduling each task. Students will learn to apply these principles to breakdown and schedule in either real-time rendering projects

— such as a video game, or image rendered projects— from animated shorts to features.

#### MMM 820 Global Storytelling

Course Description: In a world where the noise of mass and personal communications can overwhelm any message and idea, the role of storytellers who can tell inspiring, persuasive stories and is more important than ever. This course will demonstrate how to apply the universal heroes' journey in a way that transcends global cultures and civilizations. Students will explore the universal communication tool known as "stories" from its traditional forms such as fairytales, folklore and mythology through today's digital, augmented transmedia as a means of entertainment, education and communication.

#### MMM 830 Graphic Design Fundamentals

Course Description: This course focuses on the fundamental visual language of design and its application in the media and tech industries. There will be a focus on traditional design fundamentals, such as type and composition, but these fundamentals will be taught in the context of modern digital methodologies, techniques and productions. Course projects will include designing mobile apps, video games, digital films or other industry specific applications.

#### MMM 831 CG Software Fundamentals

Course Description: This course will provide an overview of the computer graphics process utilized today in print, commercials, games, television and movies. The course will offer the student a hands-on tutorial covering modeling, rendering, lighting, animation and compositing. Students will get to construct a 3D model and take it through all phases of the computer graphic process culminating in a finished scene realistically composited into a 2D background. Other subjects covered include principles of rigging, animation, motion tracking and camera moves with examples provided. Lab fees may apply.

#### MMM 860 CG Modeling

Course Description: Computer Graphic (CG) 3D modeling involves digitally constructing shapes in a virtual space and is utilized in fields ranging from movies, animation, video games, architecture, medical and industrial visualizations, and a host of new applications and media such as creating virtual actors and Augmented Reality (AR). In this course, students will learn the techniques used by movie and video game industry experts to create professional 3D Models. They will use industry techniques and applications to create new worlds by designing and modeling their own objects, creatures, and environments.

#### MMM 870 Basic Image Manipulation

Course Description: In this modern digital age, the basic principles of photography have not changed. But, the tools and techniques of how we arrive at our final image continue to evolve. This class will introduce students to the principles of photography and then explore the tools and aesthetics employed by professionals and amateurs alike to alter or enhance their images. Techniques and skills acquired will then be applied to projects involving both still and moving images.

#### MMM 880 Real-time Lighting & Compositing

Course Description: Learn the techniques film professionals use to paint with lights to

create Hollywood caliber scenes and shots. Also take a leap beyond traditional time-consuming renders and learn how to apply the latest real-time technology to light virtual cinematic scenes. This course also shows you how to composite rendered elements, live actors and FX all together using the latest real-time technology.

#### MMM 888 Real-time Lighting-Real time Compositing & FX Workshop

Course Description: Learn the techniques film professionals use to paint with lights to create Hollywood caliber scenes and shots. Also take a leap beyond traditional time-consuming renders and learn how to apply the latest real-time technology to light virtual cinematic scenes. This course also shows you how to composite rendered elements, live actors and FX all together using the latest real-time technology. Even students with little to no 3D lighting or compositing experience will walk away from this workshop with a complete real-time rendered scene.

#### MMM 890 Social Network Marketing & Publishing

Course Description: In the vast sea of opportunities offered by today's technology and networks, how can you most effectively use social media to achieve your career goals? Many traditional forms of media and networking are simply not enough to reach and captivate today's media savvy audience. To successfully reach your online and offline audiences you must fully utilize creative, problem-solving, design and communication skills. This class will explore established concepts of personal narrowcasting, blogs and tweets as well as modern takes on subjects such as data visualization and vanity metrics vs. validated learning. Finally, all of these concepts and skills will be applied utilizing affordable and accessible digital publishing tools to deliver the latest apps and media.

#### MMM 900 Digital Media StartUp

Course Description: The state of innovation sets the tone, direction and growth of jobs and entire new industries. The heart of new and innovative ideas is the modern start-up. Master the creative, technical and business skills required to conceive and create your own disruptive idea. Then launch it into a new start-up. This is project-driven companion class to the Digital Arts Master Project where students conceive and produce a project from their own original ideas and designs.

#### MMM 903 Animation I

Course Description: No description available.

#### MMM 905 New Media Production

Course Description: An introduction to digital media production providing design theory and hands-on experience. The course will cover basic principles of graphic and interface design, which will be applied to the course deliverables, including print, web, mobile, and video productions. Students will also learn about the big picture of project development, including vital skills such as scheduling, budgeting, creating and working within deadlines, and operating in a team-based environment.

#### MMM 909 Intro To Game Development

Course Description: What are the different elements to a game? What makes a great game? Computer game development requires all facets of Computer Science, including Computer Graphics, Artificial Intelligence, Algorithms, Data Structures, Networking, and Human-Computer Interaction. It also requires knowledge of other disciplines including Economics, Mathematics, Physics, and Psychology. The value of this course goes beyond culminating Computer Science. It is largely a hands-on course where real-world

skills including design, teamwork, management, documentation, and communications are critical. This course will delve into topics such as the game engine, rendering, user interfaces, sound, animation, and game hacking. This course will also cover designing MMORPGs and mobile games.

#### MMM 910 Storyboard Design

Course Description: Today, storyboards are not just employed in film and animation, but are also used in video games, interactive GUI's, product presentations and so much more. Using stories, designs and flowcharts from actual productions, this course will show students of any drawing skill level how to effectively design and construct storyboards from thumbnails to presentation layouts.

#### MMM 911 Web Graphic Design

Course Description: This course provides students with instruction in graphic editing software. Projects will use tools, layers and filters to design, edit and create digital images for the Web, apps and digital and interactive media. Topics covered will include: Basic Web design tenets, Using color effectively, Understanding fonts, Designing navigation, Creating graphics that don't distract from your site, and Using multimedia (sound, animation, and other media) on your site.

#### MMM 916 Animation 2

Course Description:

MMM 920 UI/UX: User Interfaces & User Experiences

Prerequisites: None

Units: 3

Course Description: Course introduces film lighting techniques, concepts, terminology related to film and video production. Students will become familiar with standard procedures and hands on experience with lighting equipment. The use of spotmeters and light measuring techniques will be covered.

#### MMM 921 Storyboards and Layouts

Course Description: In this course, students will be introduced to storyboarding and the animation layout process as it relates to the narrative structure. Emphasis is placed on the full storyboard process from initial sketch (thumbnails) to final, sequential panels. Using supplied stories, designs and flow charts, students will learn to apply the essentials of drawing to the production of both single layouts and short layout sequences. Through interactive lectures, discussions, demonstration and studio work, students will be able to translate narrative concepts into effective visual communications for multimedia apps, video games and motion video productions.

#### MMM 923 3D Modeling and 3D Printing

Course Description: This course instructs students in the best industry standard practices and production pipelines for creating 3D assets using Autodesk Maya, one of the leading software packages for the film and gaming industries. We will explore the tools and techniques needed to model a wide array of characters, objects, architectures, and environments. Students will build a strong understanding of the methods and principles of 3D modeling. Aspects of the production pipeline will be covered, but the main focus will be from concept design to final sculpture. In addition to learning the basics of 3D modeling with Maya, we will be learning some basics of 3D printers, such as MakerBot Replicator 2. We will learn the differences between printing materials, techniques to have more predictable results, limitations of current 3D printers and even

will be able to print out some objects by the end of the class session!

#### MMM 930 Manufacturing Cinematic Space

Course Description: As an entry-level design studio course, it uses the familiar language of film to teach volumetric thinking and design principles. The semester is divided into three projects: Analysis (1D), Construction (2D), and Space (3D). (1D) Students begin by analyzing a film through reading, writing, abstracting, and diagramming. (2D) Next, they choose a specific scene within their film to explore in depth through orthographic drawing and traditional architectural representation. (3D) Finally, they use the themes from their film as a catalyst for a design proposal. The final project is modeled physically and digitally, using design software and CAD/CAM/CNC equipment. Students are expected to participate in weekly discussions, presentations, and critiques, and use design software and tools. Some knowledge of the Adobe Creative Suite, CAD, and Rhinoceros, or equivalent, is not expected, but will be beneficial.

#### MMM 955 Math & Programming For Artists

Course Description: The purpose of this course is to teach practical mathematics and of programming to Digital Arts students. A comprehensive understanding of the mathematics involved in Computer Graphics gives Digital Artists an edge and advantage in their professional productivity. The same must be said for a moderate level of programming capabilities.- The course will proceed with a little math applied to simple level programming – all related to graphics, media and design.

#### MMM 931 Rigging for 3D Animation

Course Description: This course introduces the basic techniques of character set-up and rigging as used in 3D animation. This course will cover such principles and skills as how to set up a skeleton for an animated character, joint hierarchies, forward kinematics, inverse kinematics, constraints, and how to create facial rigs and blendshapes for facial animation.

#### MMM 940 Architectural Tour

Course Description: Locus Operandi: methods of urban surveillance. This seminar brings the city to the foreground. Through a series of site visits, the built environment becomes the classroom itself. Students will complete field trips to six locations in San Francisco, and one in San Jose. Each trip will include the following methods of urban surveillance: walking, reading, viewing film, researching, and representing. These activities will be catalogued into a book and a phone application, and will serve as field research for the final project, the design of an urban intervention. Students will be expected to attend all classes, and lead an hour of each visit. Work will be completed using pens, sketchbooks, Adobe Creative Suite, and Rhinoceros, and other related medium.

#### MMM 950 Lighting and Compositing

Course Description: This course covers the art & science of lighting, shading, and compositing to create computer graphics images (CGI). The lighting and shading portion of the course investigates the look, shading, and atmosphere techniques that brings characters and scenes to life. The compositing portion of the course focuses on the integration of CGI elements with live action footage. The course begins with introduction to the history of photographic lighting and compositing and ends with students learning to create and integrate their own CGI elements through both individual and team based projects.

MMM 999 Concept Art & Storyboarding- Digital Architecture and Sets Workshop  
Course Description: A critical phase for cinema pre-production is in design, planning and story boarding. Stories unfold in locations, sets and environments. Designing for cinematic spaces share similar qualities to architectural design. No matter what the size of your cinematic project, this course will get you ready for production and a unique integrated approach to quick, realistic and aesthetic designs relevant to your story and characters.

SEN 909 OO Programming with C++

Course Description: This class teaches Objected Oriented Programming using C++. A prior exposure to C is helpful but not required as the basic concept of C programming will be reviewed. The topics covered include: Syntax of C++, classes and objects, encapsulation, inheritance, polymorphism, design for reuse, programming with objects, the standard template library, namespaces, exceptions, type casting and file input/output.

SEN 910 HTML/CSS Programming

Course Description: No description available.

SEN 948 User Interface Design and Implementation

Course Description: This course introduces the principles of user interface development and the iteration of design-implementation-evaluation. We will study the important design principles to design good UI. We will see different techniques for prototyping user interfaces. We will learn techniques for evaluating and measuring usability.

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Course Description: This course introduces JavaScript as a programming language. We will talk about variables, data types, functions JavaScript OOP how to use JavaScript to access and manipulate BOM how to use JavaScript to access and manipulate DOM JavaScript event handling AJAX.

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SEN 958 Android Application Development

Course Description: Teaches the use of SDKs released by Google to facilitate the development of applications for the Android Phone. Android Phones are Linux based and are programmed in Java. This alone bodes very well for any software development on that platform: The Linux OS, the most powerful and easiest to manage of all

operating systems, and the Java programming language with its superior GUI development capabilities. Knowledge of SDKs is certainly an advantage when developing for the Android platform.

#### SEN 963 Python Programming

Course Description: Learn how to use Unix commands and your ITU Linux account effectively. Understand Unix basic: files, pipes, jobs, redirection, globing. Basic Perl and JavaScript. Learn how to design, write, and maintain a small website. Learn how to write interactive web pages using either Perl CGI scripts or JavaScript. Learn how to run a web server on unix.

#### SEN 964 OO Programming with Java

Course Description: This course teaches OO programming with Java. The principles of OOP programming are general and go beyond just a certain programming language. Java is used to teach and practice these principles. In this context the idiosyncrasies of the Java language are taught as well: Basic features of the Java language: primitive data types, screen-keyboard I/O, file I/O, classes, constructors and initialization, references vs. primitive type variables, access modifiers, memory layout, control structures, arrays, inheritance, function overloading and overriding, dynamic binding, interfaces; command line arguments; exception handling; introduction to the platform independent Java GUI API with Swing.

#### SEN 965 iPhone Application Development

Course Description: This course provides a training in iPhone application development including: Introduction to Objective-C; iPhone technologies: multi-touch interface, accelerometer, GPS, maps, proximity sensor, dialer, address book and calendar. It helps students to understand the business aspects of an application development. MacBook is required.

#### SEN 970 OO Programming with Objective-C

Course Description: This course focuses first on teaching the Objective C language, its syntax, design, features, and capabilities, then on introducing the Cocoa Library, then on developing GUI applications using Interface Builder. Objective C is the principal language for application development on Apple's Mac OS X and iPhone. On the Mac OS it is used together with Cocoa (the NS class library) and on the iPhone together with the UI class library. The course teaches in detail the syntax and features of the language, supported by many programming examples, drill quizzes and homework. It will use the Cocoa API and the Interface Builder to develop example applications for the Mac with a graphical interface. It starts with development of OC programs on the command line. Later the X-code IDE together with the Cocoa library and IB will be used for development. No textbook is used for the lecture, instead the student is given lecture notes on this website, that explain the whole material.

#### SEN 991 Computer Graphics

Course Description: Historical development of computer graphics, black and white graphics programming, color raster graphics, resolution and memory requirements, look-up tables, vector graphics and matrices, surfaces, rotation & scaling, graphics primitive, and transformation.

#### SEN 992 Advanced Computer Graphics

Course Description: The course gives students hands-on experience and thorough

understanding of the most important computer graphics principles. It uses Java and its built-in graphics capabilities to give the student programming experience in 2D and 3D computer graphics, coordinate transformations, linear 2D and 3D transformations, projections, 3D geometry; color computations, RGB and CMYK color systems, simulation of curved surfaces through Gouraud and Phong shading, hidden surface removal through the Z-buffer technique; also, some animation principles. Introduction to the most important Computer Graphics hardware.

#### SEN 993 Computer Graphics with HTML

Course Description: HTML5, released in March 2011, brings with it a variety of enhancements, including enhancements to the JavaScript language and powerful 2D and 3D graphics capabilities. They consist of a library of function calls of the canvas element's rendering context, that are embedded in JavaScript. Another feature is the use of shaders, that are programmable portions of the rendering pipeline. These must be programmed in the OpenGL shading language.



## **MASTER OF SCIENCE IN ELECTRICAL ENGINEERING**

### **CEN 908 Scientific Computing**

Course Description: This course will cover fundamental scientific computing and optimization techniques used in various electronic engineering fields. The techniques include interpolation methods (linear and non-linear interpolation, piece-wise interpolation, Splines, surface interpolation), solving equations and partial differential equations using numerical methods, optimizations (linear programming, dynamic programming, iterative method), approximations, Monte Carlo simulations. Parallel computing will also be introducing using clusters.

### **CEN 940 Network Security Techniques**

Course Description: This course is designed to develop knowledge and skills for security in the network systems and focuses on design and implementation of network security solutions. The key areas of the network security are intrusion detection, virtual private networks, firewalls, web security, packet filtering, network layer security, and electronic mail security.

### **CEN 941 Introduction to Computer Vision**

Course Description: The course will focus advanced techniques in image processing. Challenges of data collection with various sensors and cameras, high-level algorithms and real-time implementation will be discussed. 2D and 3D objectives recognition and reconstruction will be covered with practice.

### **CEN 942 Digital Image Processing**

Course Description: The course will be designed to introduce fundamental knowledge of basic image processing algorithms and systems. It will cover image acquisition, image data structures, images operations such as, geometric, arithmetic, logical convolution, transforms, calibration, correction, enhancement. Matlab will be used to help students grasp the basic skills of processing images on digital computers. Prerequisite: EEN941 or CEN941

### **CEN 948 Computer Network System**

Course Description: The course will introduce the principles and techniques in computer network design and architecture. Topics will include OSI and TCP/IP reference models, packet switching, data link control, medium access control, routing algorithms and transport layer control. In addition, an introduction will be given for client-server model, LAN, WAN and network performance evaluation.

### **CEN 951 Computer Architecture**

Course Description: This course focuses on principles of computer architecture, offering students an overview of computer systems, CPU design, computer arithmetic, instruction set architecture, pipelining, microprogramming techniques, memory hierarchies and management, input/output subsystem organization, and performance measurement. Its purpose is to prepare students to understand internal organization of computers and how it affects performance.

### **CEN 956 Distributed Computing Systems**

Course Description: This course covers several main topics in distributed systems,

including remote service invocation (RPC), peer-to-peer system (P2P), web services, service registration and discovery, data synchronization, service replication, and fault tolerance.

#### CEN 961 Parallel Computing

Course Description: The course will focus on parallel computing frameworks and techniques. It will cover cutting-edge techniques which including multiprocessing, multithreading, synchronization, cluster/MPI, cell computing, general purpose GPU (CUDA/STREAM), and stream computing. The course project will be issued for solving/benchmarking some computing intensive problems, such as Monte-Carlo simulations, partial differential equations, image processing, etc, using different parallel computing frameworks.

#### EEN 901 Fundamentals of Semiconductor Physics

Course Description: The course will focus on crystal structure and crystal binding, introduction to quantum mechanics and quantum statistics, energy band theory, phonon theory of crystal vibrations, equilibrium carrier statistics, recombination-generation processes and carrier transport.

#### EEN 903 Semiconductor Devices and Modeling

Course Description: The course will introduce characterization of basic semiconductor devices based on semiconductor physics, band theory, drift and diffusion, recombination/generation, P-N junctions in equilibrium forward and reverse bias, breakdown, transient and AC behavior, and bipolar junction theory, switching and frequency limitations, Spice modeling theory and methods.

#### EEN 904 Integrated Circuit Manufacture Processes

Course Description: The course will focus on principles of IC fabrication processes. It will introduce principles and practical aspects of fabrication of devices for MOS and bipolar integrated circuits, semiconductor and process materials, crystal growth and wafer preparation, contamination control and yield, oxidation, rapid thermal processing, photolithography, steppers, X-ray & e-beam lithography, chemical mechanical polishing, doping, ion implantation, deposition (PVD, CVD, Epi), etching, metallization, wafer testing, formation of various devices, manufacturing technology and packaging.

#### EEN 905 Digital Design in HDL

Course Description: The course will introduce VHDL and Verilog, two IEEE standards of hardware design languages, skills of design and verification, synthesis consideration, timing/power effective designs.

#### EEN 906 Electromagnetic Fields and Waves

Course Description: This course will introduce electromagnetic fields in vacuum and in matter, boundary value problems and Green's functions, retarded potentials, wave propagation, wave-guides and cavities, radiation, dispersion and absorption.

#### EEN 910 Integrated Circuit Design and Methods

Course Description: The course will be designed to bring students an overview picture of IC design industry. Various IC design methods, tradeoff and applications are introduced. The course projects will allow students to practice different approaches of Full-Custom design, ASIC/SOC design or FPGA design.

#### EEN 911 VLSI Design I - Circuit Design

Course Description: The course will bring fundamental considerations involved in VLSI chip design. Various circuit designs will be introduced to understand design concepts, techniques and tradeoffs in practical implementations, Physical design aspect of and global issues in chip designs, and Design considerations of circuit performance, size and power consumption.

#### EEN 912 VLSI Design II - Memory Design

Course Description: The course will be an advanced circuit design consideration and implementation. It will focus on various memory design concepts, techniques, and applications involved DRAM/SDRAM, SRAM/SSRAM, ROM, EPROM, FLASH, etc.

#### EEN 913 Microprocessor Design

Course Description: The course will introduce various microprocessor architectures, characteristics, and applications, and deliver to students a specific microprocessor design to understand each functional block design and design considerations.

#### EEN 915 Analog Circuit Design

Course Description: The course will involve Design and analysis of multi-stage BJT and CMOS analog amplifiers, Frequency response of cascaded amplifiers and gain-bandwidth considerations, Concepts of feedback, stability, and frequency compensation.

#### EEN 916 Mixed Signal IC Design

Course Description: The course will focus on the intersection of the digital and analog design worlds. The students are expected to have basic analog circuit and digital design knowledge, and to have used the principal EDA tools like SpectreRF and Verilog. The course will cover SoC system design and mixed signal subsystems such as A/D converters, digital PLLs, embedded CPUs with thermal sensors, DDR PHYs and others. Mixed-signal issues like substrate noise will be explored in detail. The course also includes a significant design project with a simple embedded CPU.

#### EEN 917 Advanced Analog IC Design

Course Description: The course will provide an understanding of analog circuit and systems design and complex CMOS IC issues. Topics include high-frequency amplifiers, high-Q oscillators, low-noise circuits, selecting passive components for minimum mismatch, non-linear systems, active filters, A/D and D/A converters, grounding and shielding, layout and system design. Students will design a medium-complexity analog circuit starting from performance and parametric specifications. The course will require heavy use of HSPICE and some electromagnetic modeling.

#### EEN 918 RF IC Design

Course Description: This course will cover fundamentals of CMOS RFIC design. The course will start with basic electromagnetics like high-Q inductor design, and then move into device modeling and layout issues. It will examine in detail the primary CMOS RF subcircuits like LNAs, power amplifiers, fractional N synthesizers, mixers and filters. A design practice will be done using SpectreRF, with the passive components designed using Sonnet or equivalent modeling tool. The circuits will be laid out using Cadence Virtuoso and the parasitic parameters will be extracted using Assura.

#### EEN 920 ASIC Design I

Course Description: The course will focus on ASIC design principle, consideration, and

design implementation with logical design, verification, synthesis, and design analyses of function, timing, power, signal integrity and others. A design project with a front-end ASIC design flow will be assigned for practice.

#### EEN 921 FPGA Design

Course Description: The course will introduce the principle of Field Programmable Gate Array, various FPGA architectures, design flow, application advantages vs. limitations. Practicing with course projects, students will develop solid understanding and hands-on experience in this exciting digital design area.

#### EEN 922 Design Verification

Course Description: The course will introduce logical verification concepts, considerations and applications. Advanced algorithms applied to coverage, challenges of speed, scalability, verifiability, and skills and trade-offs will be discussed.

#### EEN 925 ASIC Design II

Course Description: The course will emphasize on back-end ASIC design implementation with floorplan, placement and routing, layout verification and parameter extraction, design for manufacture and post-layout analysis with consideration of timing-driving and power-aware layout. A design project with a back-end ASIC design flow will be assigned for practice.

#### EEN 929 System on Chip Design (SOC)

Course Description: The course will introduce MEMS design fundamentals, microfabrication techniques and analyze a variety of MEMS structures including switches, accelerometers and microcavities.

#### EEN 930 Quantum Devices

Course Description: The course will introduce the knowledge of principles and operational characteristics of modern semiconductor devices, especially nanometer scale structured semiconductor devices. Topics includes quantum transport, quantum interference, quantum noise, transport and optical properties of low dimensional semiconductor devices, quantum optical devices, high electron mobility transistors, single electron transistors, super conducting devices, and quantum transport in mesoscopic structures.

#### EEN 931 Nanotechnology

Course Description: Nanotechnology is the field of fabrication, characterization and manipulation of nanometer scale objects. The course will analyze in details a step-by-step description of the equipment, facilities processes and process flow needed to fabricate small devices and structures, and cover fabrication challenges and breakthroughs in semiconductor nanotechnology. Students will learn processing and manufacturing concerns including process control, contamination, yield, and processing interaction, and also practice design process flows to build micro- and nano-scale devices and systems.

#### EEN 935 Introduction to MEMS Design

Course Description: The course will introduce MEMS design fundamentals, microfabrication techniques and analyze a variety of MEMS structures including switches, accelerometers and microcavities. The focus will be on hands-on design using COMSOL and Matlab and modeling the resulting structures' electromechanical

properties. The class will have a design project.

#### EEN 941 Digital Signal Processing

Course Description: The course will focus on advanced techniques in signal processing. Stochastic signal processing, parametric statistical signal models, and adaptive filterings. Application to spectral estimation, speech and audio coding, adaptive equalization, noise cancellation, echo cancellation, and linear prediction.

#### EEN 946 Design of Embedded Systems

Course Description: The course will focus on design methodologies and foundations; Platform-based design and communication-based design and their relationship with design time, re-use, and performance; Models of computation and their use in design capture, manipulation, verification, and synthesis; Mapping into architecture and system platforms; Scheduling and real-time requirements; Performance estimation; Simulation techniques for highly programmable platforms; and Synthesis and successive refinement.

#### EEN 958 Advanced System Design

Course Description: The course is intended to expose students to the state-of-the-art design and analysis techniques for embedded systems. Fueled by advances in semiconductor technology and consumer demands, many embedded systems have become so complex that the design capability simply prevents such systems to be realized. In the last decades, new research areas targeting advanced embedded system design have emerged. In this course, major results in this field will be discussed. The main topics include system modeling, performance and power/energy analysis and estimation, system-level partitioning, synthesis and interfacing, co-simulation and emulation, and reconfigurable computing platforms. Research papers with significant impacts on the above topics are studied in detail. Class discussions and research project participation are integral parts of the course.

#### EEN 961 Fundamentals of Communication Systems

Course Description: The course focuses on the analysis, principle, and application of the communication systems, both digital and analog. Students will learn Fourier techniques and their usages in communication systems, brief review of probability theories, concept of information theory, different modulation and demodulation techniques.

#### EEN 971 Introduction to Wireless Communication Systems

Course Description: The course provides an overview of wireless communication systems in use today as well as some of the emerging systems. It presents a wide range of wireless applications, from cell phones to wireless local area networks (WLAN) to satellite communications. It will examine the pros and cons of wireless communication and describe both infrared and radio technologies. Finally, it will survey the representative 2G, 3G and 4G cellular systems as well as representative WiFi WLAN systems.

#### EEN 975 High Speed Digital Systems

Course Description: The course will focus on the practical and theoretical aspects necessary to design modern high-speed digital systems, including Transmission line theory, cross talk, connectors, packages, and vias, modeling, SSN (Simultaneous Switching Noise), power delivery system, driver/receiver buffer modeling, clock distribution, digital timing analysis, design methodologies, and other advanced topics.

#### EEN 976 Introduction to Near Field Communication

Course Description: The course will introduce the fundamentals of Near Field Communication (NFC). It will start with general applications such as those that can be integrated into users' smartphones: payment, coupon redemption, ID card, bus/train/boarding pass, car key, etc. The course will focus on the technology aspects of NFC: its standardization, architecture, operation modes, physical layer and security element.

#### EEN 977 Green Energy

Course Description: Prerequisite: EEN901 or instructor approval. The course will focus on solar energy, specially the principles and operational characteristics of modern solar cells. Main topics to be covered will be solar energy principles, principles of diode, solar cell, concentrated solar cell, thin film solar cell, multi-cell structure, power conversion (DC to AC, grid), power storage (battery, fuel cell, etc) and other green energy source (hydro, wind, biomass, etc) comparison.

#### SEN 920 Computer Algorithms

Course Description: Algorithm design, sorting, searching, graph algorithms, stacks, queues, and dictionary implementations, divide and conquer algorithms, dynamic programming, randomized algorithms, amortized analysis, lower bound analysis, NP-Completeness.

#### SEN 985 Artificial Intelligence

Course Description: This course introduces the foundation of simulating or creating intelligence from a computational point of view. It covers the techniques of reduction, reasoning, problem solving, knowledge representation, and machine learning. In addition, it covers applications of decision trees, neural networks, support vector machines and other learning paradigms.

#### Math Courses

##### AMN 910 Linear Algebra

Course Description: This course covers the algebraic basic concepts of matrices and matrix operations, determinants, systems of linear equations, Gauss elimination, LU decomposition, vector spaces with inner product. Change of bases, transformations. Gram-Schmidt orthonormalization. Meaning and purpose of eigenvalues, eigenvectors and algorithms for computing them.

##### AMN 912 Applied Mathematics Methods

Course Description: This course is intended to provide introduction and accessibility to ordinary and partial differential equations, linear algebra, vector analysis, Fourier analysis, special functions, and eigenfunction expansions for their use as tools of inquiry and analysis in modeling and problem solving.

##### AMN 920 Optimization Techniques

Course Description: Basic concepts, unconstrained optimization, linear programming, simplex method, degeneracy, multidimensional optimization problems involving equality or inequality constraints by gradient and non-gradient methods.

##### AMN 922 Advanced Applied Mathematics Methods

Course Description: Applied and computational mathematics encompasses some of the most diverse and interdisciplinary research in the physical, engineering, and biological sciences.

#### AMN 930 Numerical Analysis

Course Description: This course is designed to introduce the fundamental concepts in numerical methods for partial differential equations and theoretical analysis. That includes: elements of error analysis, real roots of an equation, polynomial approximation by finite difference and least square methods, numerical integration, interpolation, quadrature, numerical solution of ordinary differential equations, partial differential equations.

#### AMN 940 Discrete Mathematics

Course Description: The course covers topics that are important in the development of computer algorithms and data structures, such as mathematical induction, asymptotic notations, recurrences, infinite series summations, graphs, digraphs, trees and counting combinatory and discrete probabilities analysis and statistical quality control.

#### AMN 952 Probability & Statistics for Engineers

Course Description: This course covers the fundamentals of probability and statistics, as well as some widely- used probabilistic models and statistical analysis methods for applications in the areas of engineering. Topics include probability axioms, random variables, densities, basic discrete and continuous distributions, sampling distribution and data descriptions, inferences on means and variances, one- and two-sample tests of hypotheses, linear regression, and analysis of variance. A free statistical computing and graphics software, R, will be used in this course.

#### AMN 960 Advanced Optimization Techniques

Course Description: Combinatorial optimization, Hopfield neural network model, Simulated Annealing and Stochastic machines, mean field annealing, genetic algorithms, Applications to: Tabu search, traveling salesman problems, telecommunications problems, quadratic 0-1 & quadratic assignment problems, graph partition and graph bipartition problems, point pattern matching problems, multiprocessor scheduling problems.

## MASTER OF SCIENCE IN COMPUTER ENGINEERING

### AMN 910 Linear Algebra

Course Description: This course covers the algebraic basic concepts of matrices and matrix operations, determinants, systems of linear equations, Gauss elimination, LU decomposition, vector spaces with inner product. Change of bases, transformations. Gram-Schmidt orthonormalization. Meaning and purpose of eigenvalues, eigenvectors and algorithms for computing them.

### AMN 912 Applied Mathematics Methods

Course Description: This course is intended to provide introduction and accessibility to ordinary and partial differential equations, linear algebra, vector analysis, Fourier analysis, special functions, and eigenfunction expansions for their use as tools of inquiry and analysis in modeling and problem solving.

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### CEN 908 Scientific Computing

Course Description: This course will cover fundamental scientific computing and



optimization techniques used in various electronic engineering fields. The techniques include interpolation methods (linear and non-linear interpolation, piece-wise interpolation, Splines, surface interpolation), solving equations and partial differential equations using numerical methods, optimizations (linear programming, dynamic programming, iterative method), approximations, Monte Carlo simulations. Parallel computing will also be introducing using clusters.

#### CEN 940 Network Security Techniques

Course Description: This course is designed to develop knowledge and skills for security in the network systems and focuses on design and implementation of network security solutions. The key areas of the network security are intrusion detection, virtual private networks, firewalls, web security, packet filtering, network layer security, and electronic mail security.

#### CEN 941 Introduction to Computer Vision

Course Description: The course will focus advanced techniques in image processing. Challenges of data collection with various sensors and cameras, high-level algorithms and real-time implementation will be discussed. 2D and 3D objectives recognition and reconstruction will be covered with practice.

#### CEN 942 Digital Image Processing

Course Description: The course will be designed to introduce fundamental knowledge of basic image processing algorithms and systems. It will cover image acquisition, image data structures, images operations such as, geometric, arithmetic, logical convolution, transforms, calibration, correction, enhancement. Matlab will be used to help students grasp the basic skills of processing images on digital computers.

#### CEN 943 Advanced Digital Image Processing

Course Description: This course will be designed to introduce techniques and implement algorithms for advanced digital image processing. It will cover segmentation, shape and texture, Morphology, recognition and classification. And compression techniques, real-time image and video coding will be covered. Matlab is used to implement and test various image processing algorithms.

#### CEN 948 Computer Network Systems

Course Description: The course will introduce the principles and techniques in computer network design and architecture. Topics will include OSI and TCP/IP reference models, packet switching, data link control, medium access control, routing algorithms and transport layer control. In addition, an introduction will be given for client-server model, LAN, WAN and network performance evaluation.

#### CEN 951 Computer Architecture

Course Description: This course focuses on principles of computer architecture, offering students an overview of computer systems, CPU design, computer arithmetic, instruction set architecture, pipelining, microprogramming techniques, memory hierarchies and management, input/output subsystem organization, and performance measurement. Its purpose is to prepare students to understand internal organization of computers and how it affects performance.

#### CEN 956 Distributed Computing Systems

Course Description: This course covers several main topics in distributed systems,

including remote service invocation (RPC), peer-to-peer system (P2P), web services, service registration and discovery, data synchronization, service replication, and fault tolerance.

#### CEN 960 Computer Communication Networks

Course Description: This course is a comprehensive technical introduction to the increasingly important and exciting field of computer networking. It covers the theory and practice of essential computer network hardware, architecture and protocols. Topics include: signal transmission; modulation and multiplexing; OSI reference model; Media Access Control; error detection; flow control; error control; congestion control; PSTN vs. packet switching; TCP/IP, ATM/Frame Relay, voice processing, VOIP fundamental, routing fundamental.

#### CEN 961 Parallel Computing

Course Description: The course will focus on parallel computing frameworks and techniques. It will cover cutting-edge techniques which including multiprocessing, multithreading, synchronization, cluster/MPI, cell computing, general purpose GPU (CUDA/STREAM), and stream computing. The course project will be issued for solving/benchmarking some computing intensive problems, such as Monte-Carlo simulations, partial differential equations, image processing, etc, using different parallel computing frameworks.

#### CEN 964 Computer Interface and Firmware Engineering

Course Description: This course introduces software and hardware interfaces between computer and peripheral devices. It covers the system hardware and device firmware design for computer applications, mainly the microcontroller/microprocessor and peripherals. Firmware is programmable content in electronic hardware devices that provides instructions to those devices. It is developed in either C or assembly.

#### CEN 965 Introduction to Medical Image Systems

Course Description: The course will cover X-ray including CT, Ultrasound, Radionuclide, and Magnetic Resonance Imaging. The focus is on the physical principles, instrumentation methods, and imaging algorithms. The medical interpretation of images, and the clinical, research and ethical issues in medical imaging will also be included.

#### CEN 966 Routing in Computer Networks

Course Description: This course introduces different routing protocols (RIP, IGRP, EIGRP, OSPF, IS-IS and BGP) as well as new developments (multicasting and MPLS). Students will learn interior and exterior routing protocols that are currently being used in the Internet. In addition, they will study multicast routing and multi-protocol layer switching (MPLS).

#### CEN 967 Local Area Networking

Course Description: This course provides an overview of communications networks and introduces the components of local area networks (LANs), wide area networks (WANs) and protocols. Main network technologies such as Sonet, Ethernet, wireless LANs and storage area network will be covered. The class will cover about, OSI (open system interconnection), TCP/IP, and the networking architecture that is the base technology of the Internet.

#### CEN 968 Network Storage Systems

Course Description: This course will introduce distributed systems designed to offer access to storage resources over a network. It will cover network file system, network storage architecture, security issues in data transferring over networks, performance measurement, file service types, and file servers. In addition, topics of data redundancy, data throughput, Samba, and load balancing will be covered.

#### CEN 996 Independent Study

Course Description: Independent Study will be arranged with an adviser. The study topic could be special interest in computer engineering under the direction of an adviser who is knowledgeable in the field. It will consist of readings, researches, presentations and project reports assigned by the adviser.

#### CEN 998 Research Project

Course Description: Research Project will be arranged with project advisor. Student will conduct independent research of an approved topic in computer or electrical engineering, prepare a technical report, and defend it in front of a faculty advisor.

#### CEN 999 Thesis

Course Description: Thesis research will be arranged with thesis advisor. A research will be expected toward the M.S. or PhD degree if thesis topic is approved. Students will conduct independent research in computer or electrical engineering, prepare a thesis, and defend it in front of a committee consists of a number of faculty designated by department chair.

#### EEN 905 Digital Design in HDL

Prerequisites: None

Units: 3

Course Description: The course will introduce VHDL and Verilog, two IEEE standards of hardware design languages, skills of design and verification, synthesis consideration, timing/power effective designs.

#### EEN 910 IC Design & Methods

Course Description: The course will be designed to bring students an overview picture of IC design industry. Various IC design methods, tradeoff and applications are introduced. The course projects will allow students to practice different approaches of Full-Custom design, ASIC/SOC design or FPGA design.

#### EEN 911 VLSI Design I - Circuit Design

Course Description: Prerequisite: EEN910 or instructor approval. The course will bring fundamental considerations involved in VLSI chip design. Various circuit designs will be introduced to understand design concepts, techniques and tradeoffs in practical implementations, Physical design aspect of and global issues in chip designs, and Design considerations of circuit performance, size and power consumption.

#### EEN 912 VLSI Design II - Memory Design

Course Description: The course will be an advanced circuit design consideration and implementation. It will focus on various memory design concepts, techniques, and applications involved DRAM/SDRAM, SRAM/SSRAM, ROM, EPROM, FLASH, etc.

#### EEN 913 Microprocessor Design

Course Description: The course will introduce various microprocessor architectures,

characteristics, and applications, and deliver to students a specific microprocessor design to understand each functional block design and design considerations.

#### EEN 920 ASIC Design I

Course Description: The course will focus on ASIC design principle, consideration, and design implementation with logical design, verification, synthesis, and design analyses of function, timing, power, signal integrity and others. A design project with a front-end ASIC design flow will be assigned for practice.

#### EEN 921 FPGA Design

Course Description: The course will introduce the principle of Field Programmable Gate Array, various FPGA architectures, design flow, application advantages vs. limitations. Practicing with course projects, students will develop solid understanding and hands-on experience in this exciting digital design area.

#### EEN 925 ASIC Design II

Course Description: The course will emphasize on back-end ASIC design implementation with floorplan, placement and routing, layout verification and parameter extraction, design for manufacture and post-layout analysis with consideration of timing-driving and power-aware layout. A design project with a back-end ASIC design flow will be assigned for practice.

#### EEN 929 System on Chip Design

Course Description: The course will introduce the method, consideration and analysis of System on Chip design fundamentals. VLSI architectures, systolic arrays, self-timed systems, system verification, design flow and implementation will be covered. System C and/or System Verilog will be applied for practice.

#### EEN 941 Digital Signal Processing

Course Description: The course will focus on time and frequency analysis of discrete-time signals and systems, signal conversion from the analog to the digital domains and back. DFT, FFT and its properties and applications are discussed. It covers spectral analysis of deterministic signals and spectrogram analysis of non-stationary signals. Analysis of filters, LP, HP, BP, BS, comb, notch, etc. will be included. Design and implementation of FIR and IIR filters and multirate signal processing, decimation, interpolation and sample rate conversion, and efficient implementation are also covered.

#### EEN 946 Design of Embedded Systems

Course Description: The course will focus on design methodologies and foundations; Platform-based design and communication-based design and their relationship with design time, re-use, and performance; Models of computation and their use in design capture, manipulation, verification, and synthesis; Mapping into architecture and system platforms; Scheduling and real-time requirements; Performance estimation; Simulation techniques for highly programmable platforms; and Synthesis and successive refinement.

#### EEN 950 Computer Control Engineering

Course Description: The course will introduce the knowledge of block diagram & signal flow graph, modeling of electromechanical, hydraulic, pneumatic systems, state variable representation & transfer functions, matrix methods in state space, controllability, observability, and canonic form transformations, pole placement with state feedback and

integral control, time domain analysis & stability criteria, root locus & method for output feedback design, and control system simulation.

#### EEN 953 Advanced Machine Learning Engineering

Course Description: The course will introduce Artificial intelligent theories, algorithms, and applications. The course covers detection and analysis, self-learning system; Bayesian network, sensor data analysis, pattern recognition, observation-based self-localization, map learning, environment reconstruction, motion planning and motion control. Project of robot system design will be applied as practice.

#### EEN 958 Advanced System Design

Course Description: The course intended to expose students to the state-of-the-art design and analysis techniques for embedded systems. Fueled by advances in semiconductor technology and consumer demands, many embedded systems have become so complex that the design capability simply prevents such systems to be realized. In the last decades, new research areas targeting at advanced embedded system design have emerged. In this course, major results in this field will be discussed. The main topics include system modeling, performance and power/energy analysis and estimation, system-level partitioning, synthesis and interfacing, co-simulation and emulation, and reconfigurable computing platforms. Research papers with significant impacts on the above topics are studied in detail. Class discussions and research project participation are integral parts of the course.

#### EEN 961 Fundamentals of Communication Systems

Course Description: The course focuses on the analysis, principle, and application of the communication systems, both digital and analog. Students will learn Fourier techniques and their usages in communication systems, brief review of probability theories, concept of information theory, different modulation and demodulation techniques.

#### EEN 971 Introduction to Wireless Communication Systems

Course Description: The course provides an overview of wireless communication systems in use today as well as some of the emerging systems. It presents wide range of wireless applications, from cell phones to wireless local area networks (WLAN) to satellite communications. It will examine the pros and cons of wireless communication and describe both infrared and radio technologies. Finally it will survey the representative 2G, 3G and 4G cellular systems as well as representative WiFi WLAN systems.

#### EEN 976 Introduction to Near Field Communication

Course Description: The course will introduce the fundamentals of Near Field Communication (NFC). It will start with general applications such as those that can be integrated into users' smartphones: payment, coupon redemption, ID card, bus/train/boarding pass, car key, etc. The course will focus on the technology aspects of NFC: its standardization, architecture, operation modes, physical layer and security element.

#### SEN 663 Unix, Perl & Web Management

Course Description: Learn how to use Unix commands and your ITU Linux account effectively. Understand Unix basic: files, pipes, jobs, redirection, globing. Basic Perl and JavaScript. Learn how to design, write, and maintain a small website. Learn how to write interactive web pages using either Perl CGI scripts or JavaScript. Learn how to run a

web server on unix.

#### SEN 909 OO Programming with C++

Course Description: This class teaches Objected Oriented Programming using C++. A prior exposure to C is helpful but not required as the basic concept of C programming will be reviewed. The topics covered include: Syntax of C++, classes and objects, encapsulation, inheritance, polymorphism, design for reuse, programming with objects, the standard template library, namespaces, exceptions, type casting and file input/output.

#### SEN 911 Web Graphic Design

Course Description: The art and profession of selecting and arranging visual elements — such as typography, images, symbols, audio, video and colours — to convey a message to an audience. Sometimes graphic design is called visual communications. It is part of a collaborative discipline: writers produce words and photographers and illustrators create images that the web/Graphic designer incorporates into a complete visual message. - This course is an introduction to graphic design theory with a focus on web design. It explores techniques that top designers use for creating visually engaging web sites. Teaches the skills, knowledge, tools and the artistic guidelines needed for creating appealing, professional looking webpages. Distinction between vector and raster graphics; Adobe Illustrator (vector graphics), Adobe Photoshop (managing and editing raster graphics), Adobe Flash (animation), DreamWeaver (combining all through HTML).

#### SEN 920 Computer Algorithms

Course Description: Algorithm design, sorting, searching, graph algorithms, stacks, queues, and dictionary implementations, divide and conquer algorithms, dynamic programming, randomized algorithms, amortized analysis, lower bound analysis, NP-Completeness.

#### SEN 930 QA/Software Testing Tools

Course Description: This course introduces the QA with test methodologies and procedures. During the course, the students go through the Manual Testing and Automation of Client/server and web based applications. The course will quickly build through each of these concepts and configuration so that by the final day of class, each student will have fully tested the application manually and convert manual test cases into automation scripts. In doing so, the students will focus on different aspects and become acquainted with additional functions.

#### SEN 941 Software Engineering

Course Description: This course covers basic software engineering elements. It focuses on techniques used throughout the software engineering process; the software lifecycle and modeling techniques for requirements specification and software design are emphasized. Both traditional and object oriented approaches are addressed. A group project gives students hands on experience developing a software requirements specification and a working prototype. This is a project-based class where students are expected to start from a narrative of the problem, and then specify output reports, analyze the problem using special data modeling techniques (entity-relationship, relational, object-oriented), design data structures, and then follow through with a prototype.

### SEN 953 Compiler Design

Course Description: This course is an introductory course on the design and implementation of compilers. It covers 4 main topics: 1. The front end section includes scanning, parsing and context-sensitive analysis of the source program; 2. The infrastructure section provides the background knowledge needed to generate intermediate code in the front end, to optimize that code, and to transform it into code for a target machine; 3. The optimization section introduces optimizer, a compiler's middle section; 4. The code generation section includes instruction selection, instruction scheduling and register allocation.

### SEN 956 Unix Operating Systems

Course Description: This course focuses on the practical usage of the basic Unix operating system features. It introduces the student to the general principles of modern operating systems: preemptive multiprocessing; and of Unix in particular: shells, environment, shell variables, processes, threads, interprocess communication, the Unix file system, and shell scripts. Upon completion of this course the student will be able to work efficiently in a Unix environment, to tailor an environment to specific needs, to understand the basics of Unix system administration, to understand security risks, to write C programs that use system calls, and to write scripts for the C shell.

### SEN 957 GUI Development with Java

Course Description: Teaches the principles of Graphical User Interfaces (GUI) and develops GUIs using Java's AWT and Swing libraries. Knowledge of and ability to use these libraries is of paramount importance in almost all of today's software development and is not limited to development of Android Phone applications. The learning and programming of GUIs is most effective and rewarding using these Java libraries, considered by many as the best, simplest and most elegant of all GUI development tools and libraries. (Most Java GUI developers don't use any visual development tools, since the design and concept of Java's GUI libraries itself is so natural and easy to understand, that visual development tools become redundant). Teaches the basic principles of graphical user interfaces, the widget hierarchies, event handling mechanisms, event queue management, thread handling etc. It is in most ways a parallel course to SEN 961 except for the language and component libraries used.

### SEN 958 Android Phone Application Development

Course Description: Teaches the use of SDKs released by Google to facilitate the development of applications for the Android Phone. Android Phones are Linux based and are programmed in Java. This alone bodes very well for any software development on that platform: The Linux OS, the most powerful and easiest to manage of all operating systems, and the Java programming language with its superior GUI development capabilities. Knowledge of SDKs is certainly an advantage when developing for the Android platform.

### SEN 961 Cloud Computing

Course Description: Introduction to cloud computing, cloud architecture and service models, the economics and benefits of cloud computing, horizontal/vertical scaling, thin client, multimedia content distribution, multiprocessor and virtualization, distributed storage, security and federation/ presence/ identity/ privacy in cloud computing, disaster recovery, free cloud services and open source software, and example commercial cloud services.

### SEN 963 OO Programming with Python

Course Description: Learn how to use Unix commands and your ITU Linux account effectively. Understand Unix basic: files, pipes, jobs, redirection, globing. Basic Perl and JavaScript. Learn how to design, write, and maintain a small website. Learn how to write interactive web pages using either Perl CGI scripts or JavaScript. Learn how to run a web server on unix.

### SEN 964 OO Programming with Java

Course Description: This course teaches object oriented programming with Java. The principles of OO Programming are general and go beyond just a certain programming language. Java is used to teach and practice these principles. In this context the idiosyncrasies of the Java language are taught as well: Basic features of the Java language: primitive data types, screen-keyboard I/O, file I/O, classes, constructors and initialization, references vs. primitive type variables, access modifiers, memory layout, control structures, arrays, inheritance, function overloading and overriding, dynamic binding, interfaces; command line arguments; exception handling; introduction to the platform independent Java GUI API with Swing.

### SEN 965 I-Phone Application Development I

Course Description: This course provides a training in iPhone application development including: Introduction to Objective-C; iPhone technologies: multi-touch interface, accelerometer, GPS, maps, proximity sensor, dialer, address book and calendar. It helps students to understand the business aspects of an application development.

### SEN 966 Advanced I-Phone Application Development

Course Description: This course teaches in depth the features of Objective-C, the UI class library, its use in I-Phone application development, the architecture of I-Phone applications, event handling mechanisms, exceptions, threads; the use of Interface Builder, and the Quartz library in writing high quality, complex i-Phone applications.

### SEN 970 OO Programming with Objective-C

Course Description: This course focuses first on teaching the Objective C language, its syntax, design, features, and capabilities, then on introducing the Cocoa Library, then on developing GUI applications using Interface Builder. Objective C is the principal language for application development on Apple's Mac OS X and iPhone. On the Mac OS it is used together with Cocoa (the NS class library) and on the iPhone together with the UI class library. The course teaches in detail the syntax and features of the language, supported by many programming examples, drill quizzes and homework. It will use the Cocoa API and the Interface Builder to develop example applications for the Mac with a graphical interface. It starts with development of OC programs on the command line. Later the X-code IDE together with the Cocoa library and IB will be used for development. No textbook is used for the lecture, instead the student is given lecture notes on this website, that explain the whole material.

### SEN 982 Oracle Database Architecture & Administration

Course Description: This course introduces Oracle as a practical example of a widely used database system, teaches basic database concepts, data definition and manipulation languages (SQL), general architecture of database management systems, transaction management, concurrency control, security, distribution, and query optimization.



### SEN 985 Artificial Intelligence

Course Description: This course introduces the foundation of simulating or creating intelligence from a computational point of view. It covers the techniques of reduction, reasoning, problem solving, knowledge representation, and machine learning. In addition, it covers applications of decision trees, neural networks, support vector machines and other learning paradigms.

### SEN 991 Computer Graphics

Course Description: Historical development of computer graphics, black and white graphics programming, color raster graphics, resolution and memory requirements, look-up tables, vector graphics and matrices, surfaces, rotation & scaling, graphics primitive, and transformation.

### SEN 992 Advanced Computer Graphics

Course Description: The course gives students hands-on experience and thorough understanding of the most important computer graphics principles. It uses Java and its built-in graphics capabilities to give the student programming experience in 2D and 3D computer graphics, coordinate transformations, linear 2D and 3D transformations, projections, 3D geometry; color computations, RGB and CMYK color systems, simulation of curved surfaces through Gouraud and Phong shading, hidden surface removal through the Z-buffer technique; also, some animation principles. Introduction to the most important Computer Graphics hardware.

### MISY 915 Management Information Systems

Course Description: Conceptual background, structures, and use of computer-based information systems. Detailed coverage of the theory and practice of information systems. Data processing technology and its applications, systems concepts, systems analysis and evaluation, and managerial and technological considerations of information systems. Examining systems for intra- and inter-organizational transactions, coordination, and control.

### Math Courses

#### AMN 914 Fast Fourier Transformation & Applications

Course Description: The course provides electrical/computer engineering and applied mathematics graduate students with the background knowledge of Fourier Transformations (FT), Discrete Fourier Transformations (DFT) and Fast Fourier Transformations (FFT). The applications of FFT in Filter Design, Signal Processing and Image Processing are also included in this course.

#### AMN 960 Advanced Optimization Techniques

Course Description: Combinatorial optimization, Hopfield neural network model, Simulated Annealing and Stochastic machines, mean field annealing, genetic algorithms, Applications to: Tabu search, traveling salesman problems, telecommunications problems, quadratic 0-1 & quadratic assignment problems, graph partition and graph bipartition problems, point pattern matching problems, multiprocessor scheduling problems.

#### AMN 965 Advanced Engineering Mathematics

Course Description: The course will emphasize on required mathematical knowledge for PhD students in Electrical Engineering. The course covers the contents of Probability &

Statistics for Engineers, Advanced Optimization Techniques, and Advanced Applied Mathematics Methods.

## **MASTER OF SCIENCE IN ENGINEERING MANAGEMENT**

### **ACTN 920 Cost Accounting**

Course Description: This is a study of cost accounting principles and procedures. The focus is on capital budgeting, standard costing, flexible budgeting, cost allocation, variance analysis, and transfer pricing.

### **ACTN 921 Intermediate Accounting**

Course Description: This course is a review of basic accounting concepts. Topics include current assets, noncurrent assets and liabilities, including pensions and other employee compensation issues, leases, and debt financing. The course develops in depth understanding of equity accounts. It also discusses the single step and multiple step income statements, and the comprehensive income, derivatives, and contingencies. In addition, the income statement with separated reported items, such as discontinued operations, extraordinary items, and the cumulative effect of a change in accounting principle (net of tax effect) are presented.

### **ACTN 922 Forensic Accounting**

Course Description: This course explores the forensic accountant's role in today's economy. The course is designed to enhance a student's understanding of the emerging field of forensic accounting. The course is structured to enhance the ability of students to think critically and to develop the knowledge, skills and attitudes necessary to compete effectively in the rapidly changing world of accounting using the traditional method of detecting fraud and using the current technology. By the end of the course, students are able to understand the causes of fraud and white-collar crime, examine the types of fraud and fraud schemes, explore methods of deterring and detecting fraud, and examine the financial impact to businesses and the economy.

### **ACTN 923 Advanced Accounting**

Course Description: This course develops an understanding of the financial accounting principles with the preparation of consolidated financial statements, segment disclosures, foreign currency adjustments, in addition to reorganizations and liquidations, mergers and acquisitions.

### **ACTN 924 Auditing**

Course Description: This course covers generally accepted auditing standards (GAAS) as they apply to the study of audit preparation. Other auditing services, such as compilations and reviews, are examined. In addition, the course covers the Code of Professional Conduct, which demonstrates the ethical responsibilities of the profession.

### **ACTN 925 Accounting Information Systems/ERP**

Course Description: ITU/SAP University Alliance Prerequisites: ACTN 900 or equivalent. The course addresses the development and use of accounting information systems for managerial control and external reporting, focusing on reporting objectives, management needs, documentation, security, and internal controls. The course focuses on concepts and principles of designing computer systems to perform accounting functions; and extensive use of applications of different microcomputer accounting software packages. Students get to work on SAP central component of financial information system that incorporates sales, audit, cash management, etc. Students will be given few case studies to work on. Also course will incorporate case studies provided by SAP in the

course.

#### ACTN 926 International Accounting

Course Description: The knowledge of accounting requirements and the influence of environmental factors on the accounting systems both nationally and internationally becomes important to the accounting professional. Topics of financial accounting for international operations, multinational managerial accounting and control, comparative international accounting, international reporting issues, and international taxation are examined. The focus of the course is to solve the problems related to accounting for multinational corporations doing business in a global environment. This course covers the topics of currency translation and foreign currency gains and losses, and accounting for international accounting organizations.

#### ACTN 927 Tax Accounting Principles

Course Description: This course introduces federal tax law, including the preparation of individual income tax form 1040 and related schedules. Tax accounting principles, such as the measurement of income, asset exchanges, capital transactions, and business expenses are examined. Topics include corporate income tax, subchapter S, dividends, and liquidating distributions. The course also provides tax knowledge through identification of significant differences between tax and financial accounting.

#### ACTN 928A Payroll Accounting

Course Description: The course examines the payroll records, regulations, and laws related to payroll. It offers the students proficiencies on the preparation of all payroll forms, schedules, and records. The course will also consist of a study of the computation of earnings and withholdings. Students will learn how to calculate wages and salaries, withholding for social security and income taxes.

#### ACTN 928B Payroll Tech Accounting

Course Description: This course teaches the use of microcomputers for accounting data such as computing wages; calculating social security, income, and unemployment taxes. Focus is placed on preparing proper payroll tax forms, journalizing and posting payroll transactions.

#### ACTN 929 Federal Personal Income Taxation

Course Description: The course introduces the federal income taxation of individuals. Topics include the concept of income, exclusions from income, personal and business deductions, taxable income.

#### ACTN 930 Federal Corporate Taxation

Course Description: The course will introduce the federal income taxation of corporation. Topics consist of the concept of contribution, formation, stock dividends, liquidation, and acquisition.

#### ACTN 940 Federal Partnership Taxation

Course Description: The course will introduce the federal income taxation of partnership. Topics consist of the concept of formation, operation of a partnership, sales of partnership interest, termination, and death of a partner.

#### ACTN 991 CPA Exam: Auditing and Attestation

Course Description: This course develops an understanding of the auditing process and

the role of internal and external auditing in an organization. The course covers auditing procedures, auditing standards generally accepted (GAAS) and other standards related to attestation engagements. The auditing and attestation section of the CPA exam tests knowledge in the context of five broad engagement tasks: plan the engagement, evaluate the prospective client and engagement, decide whether to accept or continue the client and the engagement, and enter into an agreement with the client; consider internal control in both manual and computerized environments; obtain and document information to form a basis for conclusions; review the engagement to provide reasonable assurance that objectives are achieved and evaluate information obtained to reach and to document engagement conclusions; and prepare communications to satisfy engagement objectives.

#### ACTN 993 CPA Exam: Financial Accounting and Reporting

Course Description: The Financial Accounting and Reporting section tests knowledge of accounting principles generally accepted (GAAP) for business enterprises. Topics include financial statements concepts and standards; typical items: recognition, measurement, valuation, and presentation in financial statements in conformity with GAAP; specific types of transactions and events: recognition, measurement, valuation, and presentation in financial statements in conformity with GAAP; accounting and reporting for governmental entities; accounting and reporting for not-for-profit organizations.

#### ACTN 994 CPA Exam: Regulation

Course Description: The Regulation section tests candidates'™ knowledge of federal tax procedures and accounting issues; of federal taxation of property transactions; of federal taxation'™ individuals and entities; of professional and legal responsibilities, of ethics and of business law.

#### CEN 940 Network Security Techniques

Course Description: This course is designed to develop knowledge and skills for security in the network systems and focuses on design and implementation of network security solutions. The key areas of the network security are intrusion detection, virtual private networks, firewalls, web security, packet filtering, network layer security, and electronic mail security.

#### CEN 940 Network security techniques

Course Description: Network security plays a key role in today's network computing environment. This course is designed to familiarize the students with fundamentals of network security issues, techniques, and applications. Topics include: introduction to computer networks, cryptography, secret and public key algorithms, authentication systems, digital signature, and secured e-mail systems. Some current hot topics, such as Internet security, e-commerce, and Virtual Private Network (VPN) will also be briefly covered.

#### CEN 941 Introduction to Computer Vision

Course Description: The course will focus advanced techniques in image processing. Challenges of data collection with various sensors and cameras, high-level algorithms and real-time implementation will be discussed. 2D and 3D objectives recognition and reconstruction will be covered with practice.

#### CEN 942 Digital Image Processing

Course Description: The course will be designed to introduce fundamental knowledge of basic image processing algorithms and systems. It will cover image acquisition, image data structures, images operations such as, geometric, arithmetic, logical convolution, transforms, calibration, correction, enhancement. Matlab will be used to help students grasp the basic skills of processing images on digital computers.

#### CEN 943 Advanced Digital Image Processing

Course Description: This course will be designed to introduce techniques and implement algorithms for advanced digital image processing. It will cover segmentation, shape and texture, Morphology, recognition and classification. And compression techniques, real-time image and video coding will be covered. Matlab is used to implement and test various image processing algorithms.

#### CEN 951 Computer Architecture

Course Description: This course focuses on principles of computer architecture, offering students an overview of computer systems, CPU design, computer arithmetic, instruction set architecture, pipelining, microprogramming techniques, memory hierarchies and management, input/output subsystem organization, and performance measurement. Its purpose is to prepare students to understand internal organization of computers and how it affects performance.

#### CEN 956 Distributed Computing Systems

Course Description: This course covers several main topics in distributed systems, including remote service invocation (RPC), peer-to-peer system (P2P), web services, service registration and discovery, data synchronization, service replication, and fault tolerance.

#### CEN 960 Computer Communication Networks

Course Description: Overview, examples, ISO model, physical layer, delay analysis, data link protocols, point-to-point networks, multiple-access networks, local area networks, and selected topics.

#### CEN 961 Parallel Computing

Course Description: The course will focus on parallel computing frameworks and techniques. It will cover cutting-edge techniques which including multiprocessing, multithreading, synchronization, cluster/MPI, cell computing, general purpose GPU (CUDA/STREAM), and stream computing. The course project will be issued for solving/benchmarking some computing intensive problems, such as Monte-Carlo simulations, partial differential equations, image processing, etc, using different parallel computing frameworks.

#### CEN 964 Computer Interface and Firmware Engineering

Course Description: This course introduces software and hardware interfaces between computer and peripheral devices. It covers the system hardware and device firmware design for computer applications, mainly the microcontroller/microprocessor and peripherals. Firmware is programmable content in electronic hardware devices that provides instructions to those devices. It is developed in either C or assembly.

#### CEN 965 Introduction to Medical Image Systems

Course Description: The course will cover X-ray including CT, Ultrasound, Radionuclide, and Magnetic Resonance Imaging. The focus is on the physical principles,

instrumentation methods, and imaging algorithms. The medical interpretation of images, and the clinical, research and ethical issues in medical imaging will also be included.

#### CEN 966 Routing in Computer Networks

Course Description: This course introduces different routing protocols (RIP, IGRP, EIGRP, OSPF, IS-IS and BGP) as well as new developments (multicasting and MPLS). Students will learn interior and exterior routing protocols that are currently being used in the Internet. In addition, they will study multicast routing and multi-protocol layer switching (MPLS).

#### CEN 967 Local Area Networking

Course Description: This course provides an overview of communications networks and introduces the components of local area networks (LANs), wide area networks (WANs) and protocols. Main network technologies such as Sonet, Ethernet, wireless LANs and storage area network will be covered. The class will cover about, OSI (open system interconnection), TCP/IP, and the networking architecture that is the base technology of the Internet.

#### CEN 968 Network Storage Systems

Course Description: This course will introduce distributed systems designed to offer access to storage resources over a network. It will cover network file system, network storage architecture, security issues in data transferring over networks, performance measurement, file service types, and file servers. In addition, topics of data redundancy, data throughput, Samba, and load balancing will be covered.

#### CEN 996 Independent Study

Course Description: Independent Study will be arranged with an adviser. The study topic could be special interest in computer engineering under the direction of an adviser who is knowledgeable in the field. It will consist of readings, researches, presentations and project reports assigned by the adviser.

#### CEN 996 Routing in Computer Networks

Course Description: This course introduces different routing protocols (RIP, IGRP, EIGRP, OSPF, IS-IS and BGP) as well as new developments (multicasting and MPLS). Students will learn interior and exterior routing protocols that are currently being used in the Internet. In addition, they will study multicast routing and multi-protocol layer switching (MPLS).

#### CEN 998 Research Project

Course Description: Research Project will be arranged with project advisor. Student will conduct independent research of an approved topic in computer or electrical engineering, prepare a technical report, and defend it in front of a faculty advisor.

#### CEN 999 Thesis

Course Description: Thesis research will be arranged with thesis advisor. A research will be expected toward the M.S. or PhD degree if thesis topic is approved. Students will conduct independent research in computer or electrical engineering, prepare a thesis, and defend it in front of a committee consists of a number of faculty designated by department chair.

#### CONS 900 Consilience Theory

Course Description: This is the first course comprising the capstone of ITU's general education requirements. It is aimed at presenting the case for the unity of science. It brings together leading edge scientific findings and thinking across a broad spectrum of human knowledge and explores new efforts at integrating the natural with the social sciences. It explores the relationships and linkages among physics, biology, neuroscience, psychology, psychodynamics, mysticism, and philosophy.

#### CS 810 Information Security Countermeasures

Course Description: The course covers Cyber Ethics, Basic Network Terminologies, Information Gathering & Footprinting, various attack methods like Trojans, Backdoors, Viruses & Worms, Phishing & its Prevention; System Hacking & Security, Cryptography - the most important methods without going into mathematical details, Google Hacking, Secure Coding Practices, Firewalls, IDS, Evading IDS, Wireless Hacking & Security, Bluetooth Hacking; Introduction to Cyber Crime Investigation & IT ACT 2000, Investigation Methodologies & Case Studies, Cyber Forensics.

#### CS 820 Principles of Ethical Hacking

Course Description: No description available.

#### CS 830 Cloud Computing Security

Course Description: The Cloud Computing Security class provides students a comprehensive understanding cloud security fundamentals & advanced expertise in cloud environments. Starting with a detailed description of cloud computing, the course covers all major domains in the latest Guidance document from the Cloud Security Alliance, and the recommendations from the European Network and Information Security Agency (ENISA) with expanded material and extensive hands-on activities. Students will learn to apply their knowledge as they perform a series of exercises as they complete a scenario bringing a fictional organization securely into the cloud.

#### CS 831 Data Mining

Course Description: No description available.

#### CS 840 Cert Cloud and Virtualization Security

Course Description: No description available.

#### CS 850 Big Data

Course Description: The Big Data course will introduce the basic concepts, tools, techniques, and applications. This course will cover the most up-to-date Big Data Technology including Hadoop Distributed File System (HDFS) and MapReduce engine as well as Business Intelligence tools.

#### CS 901 Network & Data Security

Course Description: No description available.

#### CS 904 Bio Informatics

Course Description: The course starts with a brief introduction to molecular biology. It then investigates the main algorithms used in Bioinformatics. After a brief description of commonly used tools, algorithms, and databases in Bioinformatics, the course describes specific tasks that can be completed using combinations of the tools and Databases. The course then focuses on the algorithms behind the most successful tools, such as the local and global sequence alignment packages: BLAST, Smith-Waterman; and the



underlying methods used in fragment assembly packages. Lecture topics include Dynamic Programming for pairwise alignment; Hidden Markov Models for pattern recognition, conducting profile-based searches and transmembrane protein structure prediction; phylogenetic tree construction and RNA structure prediction; the use of SNPs and haplotypes in genomic variation, in pharmacogenomics, in genome-wide association studies and in personalized medicine. The course is self contained and does not assume any background knowledge in biology, although an interest in molecular biology is helpful. The course will be complemented by hands-on, computer lab sessions that will allow the participants to practice with some of the major tools and databases. Students will solve hands-on problems on HIV, BRCA1 gene, Å Thalassemia, etc..

#### CS 910 Coding Theory\*

Course Description: No description available.

#### CS 921 Semantic Web

Course Description: Introduction to semantic web for inclusion of semantic content in web pages or special domain documents such that make semantic searching (instead of pure keyword searching) possible. Subjects include XML, RDF, OWL, SPARQL, logical, ontology, linked data, semantic extraction, tagging automation, semantic inference, and search optimization.

#### CS 922 Natural Language Processing

Course Description: Introduction to natural language processing including formal language theory, statistical methods, probabilistic models, hidden Markov models, computational linguistic, machine translation, speech recognition and synthesis, spoken language understanding, question answering, conversational agents, and human-machine interaction.

#### CS 923 Programming Language Theory\*

Course Description: No description available.

#### CS 925 Scala Programming

Course Description: This course is an introduction to software programming using Scala, a programming language evolved from Java. The main advantage of Scala is its versatility. It has combined features of scripting language, objective oriented language and functional programming language. The last feature is particularly useful in Web and multicore applications that require concurrent data processing. Scala has been adopted by some leading high-tech companies. For example, in 2009, Twitter announced that it had switched large portions of its backend from Ruby to Scala and intended to convert the rest. To make learning easier, we will first introduce scala as a scripting language. We will then describe its objected oriented features (including class, object, inheritance, polymorphism, etc) and finally move on to its main functional programming features (including currying, pattern matching, lazy evaluation, tail recursion, immutability, etc.).

#### CS 926 Performance Critical Design

Course Description: The course provides understanding and insight into how to construct and evaluate timing critical software systems. Timing critical software systems are systems where a timely delivery of results and outcomes is as important as the correctness of the outcome itself. Automobile safety systems, avionics systems, medical devices, financial management systems, and building safety systems are everyday examples of this type of system. Hard and soft deadlines, periodic and

aperiodic execution, mutual exclusion and protected resources, and resource arbitration will be taught and used in examples. The fundamentals underlying Rate Monotonic Analysis will be taught and discussed. The creation of multithreaded timing models for software systems will be covered by examples, sample analyses and student projects. In addition, decomposing a system for relevant timing performance will be covered, Choosing modularity so that timing performance is not impeded by incorrect module dependencies is an important but often neglected body of knowledge.

#### CS 927 Model Driven Architectures

Course Description: This course provides the student with the ability to conceive, characterize, capture, and evolve a conceptual architecture into more detailed implementations. The relationship of architecture, modeling, and Implementation will be examined. Different types of functional, behavioral, and nonfunctional modeling will be discussed. Both executable and analytical types of models will be covered. Behavioral models will be discussed in depth. State machines will be covered as the basic mechanism of describing sequential behavior. This will be extended and applied to concurrency models using concurrent state machines. Nonfunctional attributes (including execution timing) and their aggregation within layered models will be an important part of the class. Structural models will be covered as well. Other types of models involving constraints such as strongly typed programming languages and contract based programming will be included. Combinations of models and their consistency through the use of inter-model assertions. Ongoing industry work involving ISO 42010 “Standard for Architecture Description. This discussion will formalize the idea of views, viewpoints, stakeholders, and their relationship to models.

#### CS 932 Practical Neural Networks Techniques

Course Description: No description available.

#### CS 933 Machine Learning

Course Description: Machine learning is a fast-moving field with many recent real world commercial applications. The goal of Machine Learning is to build computer model that can produce useful information whether predictions, associations, or classifications. The ultimate goal for many machine learning researchers is to build computing systems that can automatically adapt and learn from their experience. This course will study the theory and practical algorithms in Machine Learning. It reviews what machine learning is about, how it evolved over the past 60 years, why it is important today, basic concepts and paradigms, what key techniques, challenges and tricks. It also cover examples of how machine learning is used/ applied today in the real world, and expose students to some experience in building and using machine learning algorithms. This course will also discuss recent applications of machine learning, such as to robotic control, speech recognition, face recognition, data mining, autonomous navigation, bioinformatics, and text and web data processing.

#### CS 936 Formal Methods\*

Course Description: No description available.

#### CS 940 Network Security Techniques

Course Description: No description available.

#### CS 950 Advanced Computer Algorithms\*

Course Description: This course covers more complicated algorithms and their analysis,

like FFTs, RSA encryption - decryption, various breaking attempts (factorization), primality verification, Diffie-Hellman key exchange, ElGamal encryption; travelling salesman, NP completeness analysis.

#### CS 960 Introduction to Data Science

Course Description: A practitioner of data science is called a data scientist. Data science leverage all available and relevant data to effectively predict a model that can be easily understood by non-practitioners. A major goal of data science is to make it easier for others to find and coalesce data with greater ease. Data science technologies impact how we access data and conduct research across various domains, including the biological sciences, medical informatics, social sciences and the humanities.

#### CS 961 Advanced Data Science

Course Description: No description available.

#### CS 979 Cryptography & Cryptanalysis

Course Description: Analyses ways to protect information during transfer in computer systems and networks. Includes the topics of cryptography, Number theoretical concepts, RSA theory, Diffie-Hellman key exchange, ElGamal Discrete Logarithm and their application and use in distributed systems, their use in secure internet services, digital signature, intrusion detection and firewalls. Some factoring methods will be studied: Fermat, Pollard Rho, Elliptic Functions.

#### ECON 920 Macroeconomic Theory

Course Description: This course analyzes the level and rate of growth of output income, employment and prices, interest, and foreign exchange rates. It prepares decision-makers to understand how an economy functions, how to interpret, analyze, and operate within a changing macroeconomic environment.

#### ECON 921 Microeconomics for Business Decisions

Course Description: Course examines supply and demand theory for consumers, firms, and industry. It studies consumer utility and demand theories, production, cost and profitability theories, and theories on market structure (perfect competition, monopoly, monopolistic competition and oligopoly) for decision-making as a manager. Course includes using econometric techniques and software package to estimate demand/cost equations and solve practical problems requiring microeconomic analysis.

#### ECON 922 Econometrics

Course Description: The course offers understanding and application of fundamental econometrics with highlight on the practice and less focus on advanced econometric theory. Econometrics comes within the economics knowledge that joins economic theory, statistics and mathematics. The course introduces econometric theory at the fundamental level to let students apply the processes with the use of real world information. The purpose of the course is to teach the students how to perform experimental learning in economics. Hence, the focus of the course is on practical functions.

#### ECON 923 International Economics

Course Description: This course examines basic principles and theories of international economics (the standard trade model and the Heckscher-Ohlin theory); international trade policies (tariff and non-tariff barriers); balance of payments, foreign exchange

markets, and exchange rate determination; and the relationship between exchange rates, current accounts, and the economy as a whole, including fiscal and monetary policies in an open-economy.

#### EDBS 901 Computer Applications in Education

Course Description: This course examines how to integrate computers into the classroom education. Emphasis will be placed on skills in the use of computer technology appropriate to teaching, learning, and managing education. It explores how technology can be used for curriculum, instructional design, and educational standards. In addition, the course also helps students learn, evaluate, and use resources that are essential for classroom management, professional productivity, and dealing with issues of equal access.

#### EEN 903 Semiconductor Devices and Modeling

Course Description: The course will introduce characterization of basic semiconductor devices based on semiconductor physics, band theory, drift and diffusion, recombination/generation, P-N junctions in equilibrium forward and reverse bias, breakdown, transient and AC behavior, and bipolar junction theory, switching and frequency limitations, Spice modeling theory and methods.

#### EEN 904 Integrated Circuit Manufacture Processes

Course Description: The course will focus on principles of IC fabrication processes. It will introduce principles and practical aspects of fabrication of devices for MOS and bipolar integrated circuits, semiconductor and process materials, crystal growth and wafer preparation, contamination control and yield, oxidation, rapid thermal processing, photolithography, steppers, X-ray & e-beam lithography, chemical mechanical polishing, doping, ion implantation, deposition (PVD, CVD, Epi), etching, metallization, wafer testing, formation of various devices, manufacturing technology and packaging.

#### EEN 905 Digital Design in HDL

Course Description: The course will introduce VHDL and Verilog, two IEEE standards of hardware design languages, skills of design and verification, synthesis consideration, timing/power effective designs.

#### EEN 910 IC Design & Methods

Course Description: The course will be designed to bring students an overview picture of IC design industry. Various IC design methods, tradeoff and applications are introduced. The course projects will allow students to practice different approaches of Full-Custom design, ASIC/SOC design or FPGA design.

#### EEN 911 VLSI Design I - Circuit Design

Course Description: Prerequisite: EEN910 or instructor approval. The course will bring fundamental considerations involved in VLSI chip design. Various circuit designs will be introduced to understand design concepts, techniques and tradeoffs in practical implementations, Physical design aspect of and global issues in chip designs, and Design considerations of circuit performance, size and power consumption.

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global issues in chip designs, and Design considerations of circuit performance, size and power consumption.

#### EEN 912 VLSI Design II - Memory Design

Course Description: The course will be an advanced circuit design consideration and implementation. It will focus on various memory design concepts, techniques, and applications involved DRAM/SDRAM, SRAM/SSRAM, ROM, EPROM, FLASH, etc.

#### EEN 912 VLSI Design II - Memory Design

Course Description: The course will be an advanced circuit design consideration and implementation. It will focus on various memory design concepts, techniques, and applications involved DRAM/SDRAM, SRAM/SSRAM, ROM, EPROM, FLASH, etc.

#### EEN 913 Microprocessor Design

Course Description: The course will introduce various microprocessor architectures, characteristics, and applications, and deliver to students a specific microprocessor design to understand each functional block design and design considerations.

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#### EEN 916 Mixed Signal IC Design

Course Description: The course will focus on the intersection of the digital and analog design worlds. The students are expected to have basic analog circuit and digital design knowledge, and to have used the principal EDA tools like SpectreRF and Verilog. The course will cover SoC system design and mixed signal subsystems such as A/D converters, digital PLLs, embedded CPUs with thermal sensors, DDR PHYs and others. Mixed-signal issues like substrate noise will be explored in detail. The course also includes a significant design project with a simple embedded CPU.

#### EEN 917 Advanced Analog IC Design

Course Description: The course will provide an understanding of analog circuit and systems design and complex CMOS IC issues. Topics include high-frequency amplifiers, high-Q oscillators, low-noise circuits, selecting passive components for minimum mismatch, non-linear systems, active filters, A/D and D/A converters, grounding and shielding, layout and system design. Students will design a medium-complexity analog circuit starting from performance and parametric specifications. The course will require heavy use of HSPICE and some electromagnetic modeling.

#### EEN 918 RF IC Design

Course Description: This course will cover fundamentals of CMOS RFIC design. The course will start with basic electromagnetics like high-Q inductor design, and then move into device modeling and layout issues. It will examine in detail the primary CMOS RF subcircuits like LNAs, power amplifiers, fractional N synthesizers, mixers and filters. A design practice will be done using SpectreRF, with the passive components designed using Sonnet or equivalent modeling tool. The circuits will be laid out using Cadence Virtuoso and the parasitic parameters will be extracted using Assura.

#### EEN 920 ASIC Design I

Course Description: The course will focus on ASIC design principle, consideration, and design implementation with logical design, verification, synthesis, and design analyses of function, timing, power, signal integrity and others. A design project with a front-end ASIC design flow will be assigned for practice.

#### EEN 921 FPGA Design

Course Description: The course will introduce the principle of Field Programmable Gate Array, various FPGA architectures, design flow, application advantages vs. limitations. Practicing with course projects, students will develop solid understanding and hands-on experience in this exciting digital design area.

#### EEN 921 FPGA Design

Course Description: The course will introduce the principle of Field Programmable Gate Array, various FPGA architectures, design flow, application advantages vs. limitations. Practicing with course projects, students will develop solid understanding and hands-on experience in this exciting digital design area.

#### EEN 922 Design Verification

Course Description: The course will introduce logical verification concepts, considerations and applications. Advanced algorithms applied to coverage, challenges of speed, scalability, verifiability, and skills and trade-offs will be discussed.

#### EEN 925 ASIC Design II

Course Description: The course will emphasize on back-end ASIC design implementation with floorplan, placement and routing, layout verification and parameter extraction, design for manufacture and post-layout analysis with consideration of timing-driving and power-aware layout. A design project with a back-end ASIC design flow will be assigned for practice.

#### EEN 929 System on Chip Design (SOC)

Course Description: The course will introduce MEMS design fundamentals, microfabrication techniques and analyze a variety of MEMS structures including switches, accelerometers and microcavities.

#### EEN 930 Quantum Devices

Course Description: The course will introduce the knowledge of principles and operational characteristics of modern semiconductor devices, especially nanometer scale structured semiconductor devices. Topics includes quantum transport, quantum interference, quantum noise, transport and optical properties of low dimensional semiconductor devices, quantum optical devices, high electron mobility transistors, single electron transistors, super conducting devices, and quantum transport in mesoscopic structures.

#### EEN 931 Nanotechnology

Course Description: Nanotechnology is the field of fabrication, characterization and manipulation of nanometer scale objects. The course will analyze in details a step-by-step description of the equipment, facilities processes and process flow needed to fabricate small devices and structures, and cover fabrication challenges and breakthroughs in semiconductor nanotechnology. Students will learn processing and manufacturing concerns including process control, contamination, yield, and processing interaction, and also practice design process flows to build micro- and nano-scale

devices and systems.

#### EEN 935 Introduction to MEMS Design

Course Description: The course will introduce MEMS design fundamentals, microfabrication techniques and analyze a variety of MEMS structures including switches, accelerometers and microcavities. The focus will be on hands-on design using COMSOL and Matlab and modeling the resulting structures' electromechanical properties. The class will have a design project.

#### EEN 941 Digital Signal Processing

Course Description: The course will focus on time and frequency analysis of discrete-time signals and systems, signal conversion from the analog to the digital domains and back. DFT, FFT and its properties and applications are discussed. It covers spectral analysis of deterministic signals and spectrogram analysis of non-stationary signals. Analysis of filters, LP, HP, BP, BS, comb, notch, etc. will be included. Design and implementation of FIR and IIR filters and multirate signal processing, decimation, interpolation and sample rate conversion, and efficient implementation are also covered.

#### EEN 946 Designs of Embedded Systems

Course Description: The course will focus on design methodologies and foundations; Platform-based design and communication-based design and their relationship with design time, re-use, and performance; Models of computation and their use in design capture, manipulation, verification, and synthesis; Mapping into architecture and system platforms; Scheduling and real-time requirements; Performance estimation; Simulation techniques for highly programmable platforms; and Synthesis and successive refinement.

#### EEN 950 Computer Control Engineering

Course Description: The course will introduce the knowledge of block diagram & signal flow graph, modeling of electromechanical, hydraulic, pneumatic systems, state variable representation & transfer functions, matrix methods in state space, controllability, observability, and canonic form transformations, pole placement with state feedback and integral control, time domain analysis & stability criteria, root locus & method for output feedback design, and control system simulation.

#### EEN 953 Advanced Machine Learning Engineering

Course Description: The course will introduce Artificial intelligent theories, algorithms, and applications. The course covers detection and analysis, self-learning system; Bayesian network, sensor data analysis, pattern recognition, observation-based self-localization, map learning, environment reconstruction, motion planning and motion control. Project of robot system design will be applied as practice.

#### EEN 958 Advanced System Design

Course Description: The course intended to expose students to the state-of-the-art design and analysis techniques for embedded systems. Fueled by advances in semiconductor technology and consumer demands, many embedded systems have become so complex that the design capability simply prevents such systems to be realized. In the last decades, new research areas targeting at advanced embedded system design have emerged. In this course, major results in this field will be discussed. The main topics include system modeling, performance and power/energy analysis and estimation, system-level partitioning, synthesis and interfacing, co-simulation and

emulation, and reconfigurable computing platforms. Research papers with significant impacts on the above topics are studied in detail. Class discussions and research project participation are integral parts of the course.

#### EEN 961 Fundamentals of Communication Systems

Course Description: The course focuses on the analysis, principle, and application of the communication systems, both digital and analog. Students will learn Fourier techniques and their usages in communication systems, brief review of probability theories, concept of information theory, different modulation and demodulation techniques.

#### EEN 971 Introduction to Wireless Communication Systems

Course Description: The course provides an overview of wireless communication systems in use today as well as some of the emerging systems. It presents wide range of wireless applications, from cell phones to wireless local area networks (WLAN) to satellite communications. It will examine the pros and cons of wireless communication and describe both infrared and radio technologies. Finally it will survey the representative 2G, 3G and 4G cellular systems as well as representative WiFi WLAN systems.

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#### EEN 975 High Speed Digital Systems

Course Description: The course will focus on the practical and theoretical aspects necessary to design modern high-speed digital systems, including Transmission line theory, cross talk, connectors, packages, and vias, modeling, SSN (Simultaneous Switching Noise), power delivery system, driver/receiver buffer modeling, clock distribution, digital timing analysis, design methodologies, and other advanced topics.

#### EEN 976 Introduction to Near Field Communication

Course Description: The course will introduce the fundamentals of Near Field Communication (NFC). It will start with general applications such as those that can be integrated into users' smartphones: payment, coupon redemption, ID card, bus/train/boarding pass, car key, etc. The course will focus on the technology aspects of NFC: its standardization, architecture, operation modes, physical layer and security element.

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### EEN 977 Green Energy

Course Description: Prerequisite: EEN901 or instructor approval. The course will focus on solar energy, specially the principles and operational characteristics of modern solar cells. Main topics to be covered will be solar energy principles, principles of diode, solar cell, concentrated solar cell, thin film solar cell, multi-cell structure, power conversion (DC to AC, grid), power storage (battery, fuel cell, etc) and other green energy source (hydro, wind, biomass, etc) comparison.

### EM 900 Engineering Management I

Course Description: This course will provide an overview of the essential skills relevant to managing cross-disciplinary engineering and science-based teams in industries. Such teams are typically responsible for new product development, getting innovations to market, developing new technologies, implementing product improvement or establishing or improving organizational infrastructure. Students will focus on the fundamental skills and applications of engineering and science management and will be introduced to the relevant business and engineering topics to be successful in this field. Topics include specific areas of finance and accounting, project and execution management, marketing, communication and leadership, management of innovation, science and technology, ethics and entrepreneurship that apply to the management of cross disciplinary engineering and science industries.

### EM 901 Engineering Management Project

Course Description: Students will explore specific Engineering Management topics and apply them to a real life project or scenario. Students will work in teams to accomplish project goals which will include acquiring a thorough understanding of the principles and practices of administration of engineering and science activities including management, organization, planning, controlling action and measuring results, management of human resources, communication and decision-making. A wide variety of Engineering Management topics will be explored and experimented with by means of hands-on practical applications. Students of various backgrounds will come together to exchange ideas and work together in an Engineering Management project experience.

### ERP 901 Introduction to ERP Systems using SAP

Course Description: ITU/SAP University Alliance. Introduction to ERP using SAP is prerequisite course for students who want to pursue other ERP courses. This course is designed for students to get basic understanding of all the Functional Departments that exist in business scenario. It gives an idea about how these functional departments work and how they are integrated in ERP systems to avoid duplication of work, and to provide efficiency and effective use of resources. It is a three Unit course consisting of 16 weekday sessions of 3 hours of each. The course is presented in lecture format with open discussion and hands-on problem solving exercises. SAP was founded in 1972 in Walldorf, Germany. It stands for Systems, Applications and Products in Data Processing. Over the years, it has grown and evolved to become the world premier provider of client/server business solutions for which it is so well known today. The SAP Business suite for open client/server systems has established new standards for providing business information management solutions. This course is a general overview of the SAP ERP System concepts and tools. This course introduces SAP as one of the ERP systems. Explains how the fundamental business processes interact in SAP ERP in the functional areas of Sales and Distribution, Materials Management, Production Planning, Financial Accounting, Controlling, Human Capital Management.

#### ERP 902 ABAP - Advanced Business Application Programming

Course Description: ITU/SAP University Alliance. SAP ABAP (Advanced Business Application Programming) is an application specific language. ABAP is used by developers to enhance SAP feature and customize to the customer needs. Students get to learn from basics of ABAP which includes language basics, report-writing, and transaction-writing, making screens and window lines, creating dictionary definitions, producing library tasks, and designing client/server functions. Though this course starts from basics it's useful if students have basic programming knowledge with object oriented concepts and knowledge of relational database design. A student also gets hands on experience with scenarios which will be discussed and worked in class on SAP system. Students will be given programming task to work on. ABAP is the language for programming SAP's Web Application Server, part of SAP's NetWeaver platform for building business applications. This course introduces the ABAP language environment, including the syntax checking, code generation and runtime system, and various features of ABAP Programming.

#### ERP 903 ERP Product Lifecycle Management (PLM)

Course Description: This course offers an in-depth view of the enterprise broad planning, organization, and performance abilities. ERP product lifecycle management (PLM) software follows the design and features of a product throughout its lifecycle. Product life cycle engages people, information, practices and business systems. PLM is one of the major part of any product with communication and succession among various efficient departments.

#### ERP 904 BI - Business Intelligence (BI)

Course Description: Business intelligence (BI) is a large group of applications and technologies for collecting, accumulating, analyzing, and offering access to data to assist enterprise users make better business decisions. BI is a procedure which allows the information to be presented in significant way used for planning and decision making. BI offers past, current and future views of business.

#### ERP 905 Enterprise Portal technology using NetWeaver

Course Description: ITU/SAP University Alliance. SAP NetWeaver is SAP's integrated technology platform and is the technical foundation for all SAP applications since the SAP Business Suite. SAP NetWeaver is marketed as a service-oriented application and integration platform. SAP NetWeaver provides the development and runtime environment for SAP applications and can be used for custom development and integration with other applications and systems. SAP NetWeaver is built using open standards and industry de facto standards and can be extended with, and -interoperate with, technologies such as Microsoft .NET, Sun Java EE, and IBM WebSphere.

#### ERP 906 ERP CRM - Customer Relationship Management

Course Description: Customer relationship management software maintains front office operations, customer service, sales, and marketing roles. It engages using technology to arrange, automate, and coordinate business procedures, focusing primarily on sales, marketing, customer service and technical support. Customer relationship management explains a company business plan included within departments and with other departments. CRM is used to follow documentation and evaluate the performance of the procedure in a methodical process.

#### ERP 907 Enterprise procurement processes (MM)

Course Description: ITU/SAP University Alliance. This course introduces the external procurement process. During the course, the students go through the entire procurement process with its typical steps - purchase order, entry of goods receipt, and entry of incoming invoice - several times. The students get to work on SAP course will quickly build through each of these concepts using Fitter Snacker case study or Quazi case study and configuration so that by the final day of class, each student will have hands on configuration experience in procurement processes. In doing so, the students will focus on different aspects and become acquainted with additional functions. (MM) Enterprise procurement process is entire procurement process with its typical steps- Purchase order, entry of goods receipts, and entry of incoming invoice- several times. The course will quickly build through each of these concepts and configuration. In doing so, the students will focus on different aspects and become acquainted with additional functions. Students get a hand on with SAP central component and learn how to configure procurement process.

#### ERP 908 Human Resource Implementation

Course Description: The course offers answers to make simpler management and plans for different personnel management duties. During the course, students will learn several modules like Payroll, Time Management, Master Data, Organizational Management, Reporting and Benefits. Students will know how to organize simple situations in human resource area.

#### ERP 910 Software as a service (SAAS)

Course Description: Software as a Service or Software on demand is the software installed on internet. SAAS is a general design adapted by business applications and contains Accounting, Enterprise Resource Planning, and Customer relationship management. Students will understand the theory of SAAS and the technology which makes it possible.

#### ERP 911 Security Management

Course Description: The course engages learning to manage authorization and authentication for different procedures. With the enormous information handled by a single server, it is very essential to understand how to protect it from unauthorized access. Students know the theory and understand what is authorization, how it works and how to give authentications to people in a business. Students get to understand the concept of data theft.

#### ERP 912 Sales order management with ERP

Course Description: ITU/SAP University Alliance. Today's enterprises face increasingly complex ordering processes with orders consisting of component parts, customized configuration, make-to-order systems and the inclusion of services. This course give an insight of the procedure of sales order management using SAP. This course introduces the sales order management process with the SAP ERP Central Component. During the course, the students learn the entire sales order process starting from a sales inquiry, entering sales orders, creating outbound deliveries, posting goods issue and invoicing the customer and entering the incoming payment. The course will quickly build through each of these concepts and configuration using the Quazi Computer case study and by the final day of class, each student will have fully walked through the Sales and Distribution process using the SAP system. In doing so, the students will focus on different aspects and become acquainted with additional functions in the sales order management process chain.

#### ERP 913 Workflow Management

Course Description: Workflow is the series of steps to realize a general duty for a group of people. Workflow management is the methodical approach to functions, information flow documented and learned.

#### FINN 916 Securities Analysis

Course Description: The course develops analytical skills for personal or business investment activities. Topics covered are techniques for analyzing risk and return for investment opportunities. This course discusses the modern and traditional portfolio management techniques. The students will learn the tools and techniques to develop their skills through the analysis of real firms.

#### FINN 917 Financial Economics

Course Description: The objective of this course is to undertake a rigorous study of the theoretical foundations of modern financial economics. The course will cover the central themes of modern finance including individual investment decisions under uncertainty, stochastic dominance, mean variance theory, capital market equilibrium and asset valuation, arbitrage pricing theory, option pricing, and incomplete markets, and the potential application of these themes. Upon completion of this course, students should acquire a clear understanding of the major theoretical results concerning individuals' consumption and portfolio decisions under uncertainty and their implications for the valuation of securities.

#### FINN 918 Financial Institutions

Course Description: This course provides students with an overview of the basic contributions in the modern theory of corporate finance and financial institutions. The course is methodology oriented in that students are required to master necessary technical tools for each topic. The topics covered may include capital structure, distribution policy, financial intermediation, incomplete financial contracting, initial and seasoned public offerings, market for corporate control, product market corporate finance interactions, corporate reorganization and bankruptcy, financing in imperfect markets, security design under adverse selection and moral hazard, and some selected topics.

#### FINN 919 Advanced Financial Management

Course Description: The course introduces advanced concepts and methods of financial management. Topics consist of asset evaluation, capital structure, risk and return, business financial planning, capital budgeting and working capital management.

#### FINN 920 Financial Derivatives and Risk Management

Course Description: This course helps the students to develop the necessary skills to value and to use options, and futures. Topics include the valuation of futures contracts on stock indices, on commodities and treasury instruments; the valuation of options; forwards; swaps; hedging strategies. The course covers derivative exchange, valuation of derivatives, trading practices and regulations, assessing and managing financial risk, and mutual funds analysis.

#### FINN 922 Corporate Valuation

Course Description: There is no major corporate investment decision that can be made without first asking and answering the question - "What is it worth?" The goal of

this course is to build your skills and confidence in answering that question. In these turbulent times, it might appear that understanding market behavior is paramount. But as Mr. Buffett notes above, even so, the ability to value a business is still indispensable. Regardless of the career path you choose post-MBA; valuation is among the handful of essential tools you want to have in your skill set. The focus of the Corporate Valuation class is on making investment decisions in real (as opposed to financial) assets. It will acquaint you with the widely-used ideas that have revolutionized the practice of valuation during the past few decades. By the end of the course, I expect you to be comfortable in answering the question: What is a real asset - a new product, a new project, a division, or a company - worth? The class is broadly divided into three segments. - The first segment serves as a quick recap and reinforcement of the ideas that drive all valuations: free cash flows, cost of capital, growth rates, terminal value, DCF models (WACC vs. APV, FCFF vs. FCFE), trading and transaction multiples. - The second segment applies these ideas to practice in various valuation scenarios: project/divisional valuation, IPO valuation, valuation for mergers and acquisitions and valuation for private firms. - The final segment introduces real options and their application in corporate investment, focusing on how to identify, conceptualize and value them. We will discuss options to delay, expand and abandon using different techniques such as binomial tree, Black-Scholes, and Monte-Carlo simulation. Classes will consist of a combination of lectures, discussions and student presentations.

#### FINN 930 Investment Management

Course Description: The course offers the basics of investment management. Quoted and private equity investments and entrepreneurial finance are the focus of the topics. This course introduces market and portfolio perspectives, starting with the discounted cash flow methods to the concept of term structure in the valuation of risk-free cash flows, including forward rates and valuing risky or uncertain cash flows. The course prepares students to identify various investment products. Both real world and theoretical views are discussed.

#### FINN 931 International Financial Management

Course Description: This course provides students with the framework for making corporate financial decisions in an international environment. Topics include: measurement of currency exposure and of currency risk. In addition, topics about the decision to undertake a global financing program, exchange and capital market; capital budgeting analysis for foreign direct investment; and the value of target firms for cross-border acquisitions are discussed. The course will examine different aspects of the foreign exchange market, the role of governments and the central banks. The main focus is on the markets for spot exchange, currency forwards, options, swaps, international bonds, and international equities. Multinational financial transactions create unique challenges due to the market complexity, to the exchange rate and the political risks.

#### FINN 932 Corporate Finance

Course Description: Corporate Finance is an introductory finance course and it is required for all MBA students. It is designed to cover the areas of finance that are important to all managers. At the end of this course you will be able to value the financial position of a firm. In order to reach this goal, the students will analyze historical uses of funds and understand project funding needs. In addition, the students will be able to analyze working capital management; choose among alternative sources of external funding for company operations; and evaluate investment opportunities. The course

shows the students how to use ratio analysis to assess corporate performance, financial statements and cash needs.

#### FINN 933 Managerial Finance

Course Description: The course teaches the students financial concepts and tools necessary for effective business planning. Topics include formation of interest rates, income taxes, working capital management, cost of capital, financial forecasting, external sources of capital, company valuation and bankruptcy.

#### FINN 934 Financial analysis and Corporate Policy

Course Description: The course is an in-depth study of selected topics in finance, including ratio analyses, capital structure and leverage, working capital management, reorganization and bankruptcy. Current business cases, including several Harvard Business School cases study, will be discussed.

#### FINN 935 Mergers and Acquisitions

Course Description: This course examines issues that arise in the merger and acquisition context. There will be an analysis of the key components of acquisition agreements against the background of relevant case law. Topics include advanced capital budgeting techniques, strategies, acquisitions, and leveraged buyouts. The course focuses on the study of the law governing, and the methods of accomplishing, including the conduct of negotiations, considerations in pricing and stock-for-stock swaps.

#### FINN 936 Behavioral Finance

Course Description: There is an abundance of evidence suggesting that the standard economic paradigm “rational agents in an efficient market” does not adequately describe behavior in financial markets. In this course, we will survey the evidence and use psychology to guide alternative theories of financial markets with an eye towards identifying frontiers and opportunities for new research. Along the way, we will address the standard argument that arbitrage will eliminate any distortions caused by irrational investors. Further, we will examine more closely the preferences and trading decisions of individual investors. We will argue that their systematic biases can aggregate into observed market inefficiencies. The second half of the course extends the analysis to corporate decision making. We present the two themes of behavioral corporate finance: rational managers exploiting financial market inefficiencies and managerial decision-making biases. We then explore the evidence for both views in the context of capital structure, investment, dividend, and merger decisions. We emphasize the importance of differentiating the behavioral approach from information models and other more traditional methodology. We will also discuss Dual Motive Theory in terms of Ego/Empathy, greed/positive financial impact to understand how brain functions can impact financial behavior and relationships.

#### HRMG 940 Human Resource Management

Course Description: This course examines the principles of human resource management, including recruiting, hiring, orienting, training, developing, disciplining, and rewarding employees. The course provides a management-oriented exploration of human resource management, structure, functional applications, and labor management relations. This course is a humanistic and legal analysis of organizations, focusing on the role of human resource management. There will be an examination of managers and leaders within organizations and their responsibility to maximize performance and make

decisions based on ethical criteria. We will also discuss Dual Motive Theory in terms of Ego/Empathy, ethical/unethical behavior to understand how brain functions can impact human behavior and relationships.

#### HRMG 941 Employee Training and Development

Course Description: This course reviews training, employee and organizational development techniques that the organizations use to build group and individual skills. Topics include linking identified needs to business objectives, developing an implementation plan, implementing the plan using a variety of modalities, and assessing results. The students will use a hands-on approach to evaluate organizational needs for employee development. We will also discuss Dual Motive Theory in terms of Ego/Empathy, self/other behavior to understand how brain functions can impact human behavior and relationships.

#### HRMG 942 Employment law for business

Course Description: This course emphasizes federal employment statutes. Cases are used to illustrate the various federal courts'™ interpretation. Federal agencies such as Equal Employment Commission and Department of Labor are studied. Topic on the employment Law provides a comprehensive analysis of federal and state laws, which affect the human resource function, including equal employment opportunity, wage and overtime payment, and employment agreements. The course focuses on applying employment laws to develop programs that enable organizations to act positively in meeting both company and work force needs, trying to resolve workplace disputes, prevent litigation, and implement personnel policies and practices in conformity with applicable law.

#### HRMG 943 Human Resource Planning

Course Description: This course helps the students to understand the necessary basics of the human resources planning process in organizations. In this course, the students should complete a comprehensive written plan for a company'™s human resource function. Review of concepts and skills developed in other human resource courses is required. In addition to preparing the written plan, the students should make an oral presentation to the class and, if possible, to a panel of human resource professionals. Quantitative, qualitative concepts, approaches and techniques are discussed. Topics include human resources data systems and human resource action plans.

#### HRMG 944 Managing Human Capital

Course Description: This course focuses on the organizational factors that influence the utilization of human capital. In addition, it will focus on developing, maintaining and improving workforce competence. This course will also explore the challenges of increasing the competitive advantage through effective human capital management. Topics include workforce planning in a dynamic environment; building a positive human capital reputation; dynamics of organizational culture; organizational change and learning; linking corporate strategy and human capital management, and influencing emerging technologies. We will also discuss Dual Motive Theory in terms of Ego/Empathy, ethical/unethical behavior to understand how brain functions can impact human behavior and relationships.

#### HRMG 945 Strategic Compensation: Issues and Opportunities

Course Description: This class addresses the need for strategically focused compensation systems aligned to the business objectives and examines the related

factors that impact employee motivation and productivity in a variety of settings and industry sectors. The course will examine and analyze the various components of compensation systems in contemporary organizations in understanding how and why they add and sustain shareholder and/or stakeholder value.

#### HRMG 946 Human Resources and Technology

Course Description: This course offers the students the best practices in use of technology in the human resources field. Topics include the use of human resources information systems, web-based human resources used to develop and support the various functional areas of human resources.

#### HRMG 947 Managerial Analysis & Team Dynamics

Course Description: This course will teach students how to develop proficiencies needed for individual efficiency as a manager, including critical thinking, business analysis, problem-solving, leadership, group dynamics and teamwork. The course offers a study into how managers and employees work in groups for the achievement of organizational goals. It will equip students with the capability to handle work teams, to work in teams effectively, and to gain results via team dynamics.

#### HRMG 948 Managing Global Diversity

Course Description: This course discusses the benefits and challenges of managing diversity in the workplace. The students will analyze various ways to develop a positive, nondiscriminatory and productive work environment. In addition, the course focuses on workplace issues related to differences in gender, race, cultural ethnicity, age, and social class.

#### INBS 910 Fundamentals of International Business

Course Description: This course provides an introduction to globalization and the cultural, economic, political and legal environments of international business. The course helps students understand international trade, the role of the government in trade and have an understanding of the international financial system. It will familiarize students with concepts of international strategy, marketing products in the international arena and international staffing policy.

#### INBS 911 International Financial Markets

Course Description: This course analyses the international financial markets. Topics include foreign currency, international money markets, banking, and capital markets.

#### INBS 912 International Law

Course Description: This course explores the legal considerations that apply to U.S. businesses abroad and explores issues of contract negotiations, international conventions, and current multinational business issues such as dumping, products liability, patents and copyrights. Topics about sovereignty, legitimate war, humanitarian intervention, economic aid, and human rights are discussed. The course explores international law concepts and issues such as, the law of treaties. It will discuss a series of international law topics and issues, including the settlement of international disputes, and the law or armed conflict.

#### INBS 913 Global Strategic Management

Course Description: This course examines the fact of Globalization, and how managers in multinational firms struggle with a complex and rapidly changing international



economic environment. The course introduces the business skills of understanding and managing strategic issues in international environment. It will also focus the understanding of the need for awareness of a change in organizations'™ internal and external environments.

#### INBS 914 International Monetary Economics

Course Description: The course offers an analysis of the balance of payments and foreign currency markets. Topics include the international payments system, foreign investment and debt.

#### INBS 915 International Human Resource Management

Course Description: The course focuses on the role of the manager in international organizations. It creates awareness of differing legal environments. Topics related to functional areas of human resource management - staffing, compensation, training, and labor relations are discussed.

#### INBS 916 Global Marketing and Strategy

Course Description: This course will study marketing and strategy from a global perception. It will focus on the results of international trade and the political, legal, financial and cultural situations on marketing joint decisions. The course will help students understand the analysis and plan of marketing strategies for various international environments.

#### INBS 921 International Business Practicum

Course Description: This course is a capstone course that focuses on integrating theory and practice through the application of international business tools and methods. The course will feature guest speakers that are experts in various aspects of international trade.

#### INMG 910 Principles of quality management

Course Description: This course covers the philosophy and concepts of quality management with an emphasis on tools and techniques of quality management for continual improvement in quality and productivity. Students learn techniques to improve organization performance and competitiveness.

#### MBAN 997 Research Methods

Course Description: This course provides an introduction to some of the important topics in the general area of research methods, and to do so in a non-intimidating and informative way. Topics include the role and importance of research, problem selection, sampling, measurement, data collection, descriptive and inferential statistics, experimental and nonexperimental research, quasi-experimental research, and writing and presenting research. The course of study will give the student a solid background of knowledge for developing a research paper and subsequently, submitting it for publication to a refereed journal.

#### MBAN 998 MBA Project

Course Description: By arrangement with project advisor. A nominal number of 2 or 4 credit hours is expected toward to M.S. degree if the Project Option is selected. Conduct independent research of an approved topic in business administration, prepare a technical report, and defend it before a faculty advisor.

#### MBAN 999 MBA Thesis

Course Description: Preparation of an independent research or thesis and defending it before a committee composed of a number of faculty designated by director of the M.B.A. program.

#### MGTN 901 Principles of Management

Course Description: This course features traditional management principles such as planning, managing, leading and controlling. Two textbooks will be utilized during the semester: one for theory & practical tactics of management, and another for self and other-awareness of people principles of management. Students will read and discuss the two texts and engage in classroom activities and business writing. There will be individual and group written essay, and oral presentation assignments. We will include a review of Dual Motive Theory, understanding how brain functions of ego and empathy can impact behavior and relationships.

#### MGTN 902 Business Statistics

Course Description: With many unfamiliar concepts and complex formulas business statistics can be confusing and demotivating experience for students that do not have a strong mathematics background. They can have trouble recognizing the importance of studying statistics, and making connections between business problems and the statistical tool that can be used to solve them. This seventh edition of Business Statistics: For Contemporary Decision Making has been designed to provide students with better explanations and examples thus providing a smoother path to understanding and the ability to choose the correct techniques to apply for a given problem.

#### MGTN 910 Managing within the Law

Course Description: All too often in dealing with employees, managers and supervisors without proper employment training create problematic situations that can turn into expensive lawsuits, tarnish an employer's reputation, and waste precious company resources. This course addresses critical employment law areas that leaders, managers and supervisors confront on a daily basis. This course provides students with skills to identify and effectively resolve workplace issues, while minimizing personal and organizational liability. Topics include hiring, performance reviews, investigating and responding to complaints, wage and hour compliance, preventing unlawful harassment, disability accommodation, unionization, workplace safety, employee privacy, social media, and employee termination.

#### MGTN 915 Organizational Teamwork

Course Description: In this course, students will learn and apply the skills required for effective teamwork that applies in many industries. This course provides the student with the opportunity to apply course concepts to organizations in the private, non-profit, and public sectors. Examines the role of teamwork in organizations including: the rationale for teams, communicating, effective team meetings, resolving team problems, motivating, collaboration and intercultural implications. Read current periodicals, analyze case studies and source online material to gain a better understanding of organizational teamwork in the different sectors. Students are expected to participate in discussion and teamwork online. We will include a review of Dual Motive Theory, understanding how brain functions of ego and empathy can impact behavior and relationships.

#### MGTN 916 Principles of Public Relations

Course Description: This course invites students to learn the language of the field of

public relations. Also, students will learn to distinguish between the field of public relations and its related fields: marketing, advertising, public affairs, publicity, and propaganda. Students will compile actual research data about a hypothetical public relations campaign. Students will apply basic public relations principles to case studies. For the final exam, students will deliver effective public relations presentations. Students must come to class with their computers. Submit your resume to the ITU EMS ([ems.itu.edu](mailto:ems.itu.edu)) before the first class, because you will be introducing yourself to your classmates.

#### MGTN 917 Non-Linear Strategies for Business Success

Course Description: This course is designed to give students an edge in tomorrow's hyper competitive business landscape revolving around entrepreneurship, innovation, and leadership. Knowledge of the underlying operating system of Field engagement is key for tapping innovation, unlocking potential and activating the hidden drivers required to succeed. For decades researchers such as Stanford's William Tiller and Columbia's Brian Greene have been studying these unseen forces and their profound implications for everyday life. Successful next-generation leaders require practical strategies born of an understanding of these concepts of entangled fields, game theory, chaos theory, qubits and waves. Students will walk away with a new framework to use for their careers and personal lives. Moreover, students will discover how to leverage a new triple bottom line that benefits not only themselves, but the world.

#### MGTN 920 Production and Operations Management

Course Description: The course covers the transformation of product and service requirements into capacities, processes, and operating organizations. It consists of product design, production options, quality control, facilities location and design, supply requirements planning, and project management. This course will help students to understand theories, problems and methods applicable to the operations of various business organizations. The focus is on decision making in operational areas such as: facility conditions and use, control and manage resource inputs and outputs, types of transformation procedures, and performance evaluations.

#### MGTN 922 Quality Control Management

Course Description: This course focuses on the understanding of the effective quality management. It provides the quality basics, benefits of quality and quality philosophies. It also provides a basis approach to teamwork, team types, team building dynamics, to the analysis of continuous improvement. The problem solving process, and customer-supplier relationships are addressed in quality control management. The responsibility and roles of the leaders, including managers and facilitators is emphasized. The course discusses the methods of quality control and improvement tools. The key factors of the course are defining quality principles, and developing effective systems or processes for monitoring and improving quality control. Emphasis is on decision making and applications in quality improvement.

#### MGTN 923 Lean Six Sigma

Course Description: Six Sigma has been a proven methodology for solving problems in many of the business areas in many fields. The methodology helps in producing a high quality product or service, using techniques and principles that ensure excellence. The Six Sigma methodology incorporates many of the business, statistical, quality, and project management principles and practices with a goal of creating a systematic and data-driven decision making environment. Many of the successful companies utilize the

principles of Six Sigma to meet growing customer expectations and to deliver survive and excel in today's competitive marketplace. This course covers an overview of the Six Sigma principles, process, and implementation, and provides required information for taking six-sigma certification examination such as Green Belt/Black Belt.

#### MGTN 924 Business Continuity Planning

Course Description: The course will teach the students how to manage the completion and day-to-day tasks related to making Business Continuity Plans and Procedures, and organizing Disaster Recovery functions. The course will equip the students with the skills to be responsible for interfacing with management and auditors, and implementing and supporting the following services: - Contingency Planning - Disaster Recovery - Business Recovery - Risk Management

#### MGTN 925 Impact of Intellectual Property in a Global Economy

Course Description: This course provides an overview of intellectual property law, including trade secrets, patents, trademarks, and copyright. Key objectives are to help students develop an appreciation for the importance of intellectual property as a key economic driver in the modern global economy and to assist them in developing competence in IP management, whether they are technology or business professionals.

#### MGTN 930 Strategic Operations Management

Course Description: This course is designed to give both a theoretical and practical background in strategic management. Strategic operations management concerns the essential activities of directing the varied processes of both manufacturing and service enterprises in both the domestic and Global environments. The course will analyze case studies related to the real challenges of management. It will develop awareness in business matters significant to fast moving high tech entrepreneurial environment. In addition, it will cover the strategic aspects of operations management.

#### MGTN 935 Contracts and Purchasing Management

Course Description: According to the United States Bureau of Labor Statistics, the employment of purchasing managers, buyers, and purchasing agents is expected to increase 7% through the year 2018. This course addresses the expanding needs of private industry, local, state and federal agencies for professionally trained procurement and contract specialists. More specifically, this course provides an overview of the basic concepts and practices in procurement and contract management, with an emphasis on these activities in the small business environment.

#### MGTN 942 Critical Thinking Strategies in Decision Making

Course Description: This course applies corporate finance concepts and accounting tools to make management decisions. Students learn to evaluate organizational performance from accounting information, methods to evaluate financial alternatives, and create financial plans. Other topics include financial statements, concept of depreciation and inventory methods, cash flows, business valuation, working capital, cost behavior, cost allocation, budgets, and control systems. We will also discuss Dual Motive Theory in terms of Ego/Empathy, ethical/unethical behavior to understand how brain functions can impact human behavior and relationships.

#### MGTN 943 High-Technology Entrepreneurship

Course Description: This course is offered for those planning to undertake an entrepreneurial career in starting and building an international company in the high-

technology area. A special effort is made to take advantage of ITU's proximity to the entrepreneurial community in Silicon Valley with its fundamental international business thrust. An integrative business plan for a new company in the technology arena is an integral part of the course. Gain an overview of the entrepreneurial process. Topics covered include: addressing new business opportunities, global trends, high technology, business model design, start ups, venture capital process and tools. This course will cover the basics of building a business plan to meet emerging needs. Concepts and techniques of social entrepreneurship will provide the foundation for learning and communicating. Bring your resume to the first class, because you will be applying for a critical role on an entrepreneurial team. Topics that your team will address are a consensus choice among: • Case Studies • Principles Special attention will be paid to students'™ demonstration of successful presentation techniques.. Dual Motive Theory: Student project: Consilience, Entrepreneurship and You is about the CEO in you. You represent a set of assets that you are in charge of " mental, emotional, informational and intellectual.

#### MGTN 944 International Management

Course Description: This course studies the role of managers in global markets. Topics include the external economic and political environment, international strategic planning, partnerships, global human resource management, managing technology, product and service design, ethics and leadership. The course utilizes innovative techniques and case study analysis from a variety of national, and multinational firms.

#### MGTN 945 Pitching a Business to Venture Capitalists

Course Description: In today's extremely competitive world of raising money for startup companies, it is absolutely critical to have an effective and well-conceived pitch deck to compliment your vision and strategy. Only 1 of every 200 business plans submitted to venture capitalists (VCs) gets funded, so it is vital to present a well thought-out presentation that includes all of the elements that VCs (or any type of potential investor) will be looking for in deciding whether to invest in your company or not. Whether you are interested in starting your own company someday, want to work for a startup, or just want to learn more about venture capital, Silicon Valley and startups in general, this will be a great opportunity to discover how startup companies have successfully raised money – and how you can too!

#### MGTN 945W Building a Pitch Deck for Venture Capitalists Workshop

Course Description: Participants will form teams (companies) of 2-4 people to take on the roles of a real life startup company (eg. CEO, CTO, VP Sales, VP Marketing, etc.) During the course of the semester these teams will work diligently to create a pitch deck (of a real or fictitious company) that includes all the elements outlined in MGTN945. Up to 10 of these teams will present their pitch decks to a voting panel of ITU professors and fellow students and also get feedback on their concepts and presentations. The winning team(s) will then get the opportunity to take their pitch to a Silicon Valley venture capitalist! This workshop is designed for current or future entrepreneurs or those who want to better understand what it takes to fund and/or work at a startup company.

#### MGTN 947 High Performance Leadership

Course Description: What does it take to build a high-performance unit? The focus of the course is on individuals who are in the leadership positions, particularly the middle and upper-middle management in contemporary complex organizations. The course shows that traditional methods of management may produce adequate levels of performance

but prevent excellence from developing. More recent or new approaches to leadership will be discussed and lead to a high-performing system.

#### MGTN 948 Project Management

Course Description: This course provides an overview of project management history, culture, methodologies, leadership and strategic planning. The course introduces important tools, such as work breakdown structure, scheduling, earned value analysis, and risk management. Case studies from a variety of organizational settings are discussed. The course discusses the 5 processes that must be done for project success: Define, Organize, Execute, Control and Close. The strategic implications of projects will be considered with respect to the organizational vision.

#### MGTN 949 Organizational Theory

Course Description: The course examines the role of perception, learning, motivation, leadership, organizational culture, communication, group and team dynamics, conflict, stress, and other factors that affect individual job performance and overall organizational performance. In addition, the course describes the relationship between the dual motive theory and the human behavior. Emphasis is placed on underlying causes of human behavior in organizations, and how to effectively manage behavior. Case studies are used to enhance learning and integration of key management skills related to managing human behavior at work. We will include a review of Dual Motive Theory, understanding how brain functions of ego and empathy can impact behavior and relationships.

#### MGTN 950 Project risk management

Course Description: This course explores various ways to identify, and analyze the full range of project risks. It will also explore the six risk management: risk management planning, risk identification, qualitative risk analysis, quantitative risk analysis, risk response planning, and risk monitoring and control. The students will use case studies to learn risk management techniques.

#### MGTN 951 Business Communications

Course Description: Communication is an essential component in every management task. One objective of this course is to provide a framework to approach communication challenges and make media, message, structure, and style choices. Another objective is to develop the oral and written communication skills required of managerial leaders. Barriers to communication, particularly cultural barriers will be analyzed. We will include a review of Dual Motive Theory, understanding how brain functions of ego and empathy can impact behavior and relationships.

#### MGTN 952 Business Ethics

Course Description: This course introduces ethical decision making in business environment. It examines the individual, organizational, and macro level issues. The course does not attempt to determine correct ethical action. In the complex business environment in which managers confront ethical decision-making there is no absolute right or wrong answer in most cases. Since there is no general agreement on the correct ethical business norms, critical thinking and relevant decision making are examined. We will also discuss Dual Motive Theory in terms of Ego/Empathy, ethical/unethical behavior to understand how brain functions can impact human behavior and relationships.

#### MGTN 953 Business Law

Course Description: This class is intended to inform and educate graduate business

students of the legal requirements and risks associated with managing, owning and operating a high tech business in today's global economy.

#### MGTN 954 Advanced Project Management

Course Description: This course offers a study of the human and the operational sides of project management. The human side includes discussion on negotiating and conflict management, leveraging diversity and selling project management. The operational side includes scope control techniques, risk management, and organizing for success. The students will learn how to effectively engage the project team, deal with the inevitable conflicts and use intellectual and cultural diversity to encourage creative problem solving.

#### MGTN 966 "Managing Emotions, Managing Self and Others"

Course Description: This course will describe the aspects of Emotional Intelligence and managing yourself and others, starting with self-awareness, empathy, and regulating emotions for self and others to sustain healthy and authentic relationships. Other aspects include positive and negative emotional contagion, EI's effect on morale, leading and professionalism. We will include a review of Dual Motive Theory, understanding how brain functioning of ego and empathy can impact behavior and relationships. Finally the class will study evaluations of cognitive, emotional and social competencies and scholarly research showing how humans flourish.

#### MISY 910 Business Database Applications

Course Description: This course provides a basic overview of the concepts, principles, skills and techniques of business database systems and of database application system development. The course provides an approach to the design and use of databases for business applications. The study focuses on query languages and application generation. Use of database software applications are a necessity in current business environments.

#### MISY 911 Business Telecommunications

Course Description: The course offers an overview of communications technology used in many business applications - local area network, wide area network, broad band network, wireless and voice network. The course helps the students understand the role of internet protocols. In addition, it provides training to analyze network requirements, design and implement local area networks.

#### MISY 912 Information Resource Management

Course Description: This course explains the concept of viewing information systems resources from a strategic resource standpoint. The course will provide pragmatic tools for implementing the IRM within the organization. Topics will include Information System outsourcing, total cost of ownership, Information System planning and strategic analysis, management of IT human resources, traditional project management theory, and project management techniques. We will include a review of Dual Motive Theory, understanding how brain functions of ego and empathy can impact behavior and relationships.

#### MISY 913 Managing Global Information Systems Projects

Course Description: The course helps the students learn how to plan and manage global information systems projects by focusing on initiating, planning, executing, controlling and closing projects. Topics such as integration, scope, timing, cost, quality, human resource, technology, communications, risk and procurement are discussed. The

students will learn how to monitor project plans and communicate reports to clients.

#### MISY 914 Information Systems Innovation

Course Description: This course provides the tools and the skills to leverage emerging information technologies in order to create new business opportunities for both new entrepreneurial ventures and traditional firms. The course helps the students to understand, evaluate, and apply difficult topics such as new innovative and entrepreneurial information technologies.

#### MISY 915 Management Information Systems

Course Description: This course explains the concept of managing information systems as a part of a broader socio-technical system and their impacts on people and processes in the business environment. Critical thinking is an important and essential part for the understanding of important issues associated with the management aspects of information systems. The course focuses on how the organization has used and can use its information resources to best serve its needs. MISY -916 Human-Computer Interaction (3) Prerequisite: Graduate standing. The course focuses on key factors in Human-Computer interaction. Topics include Design elements, test procedures, experimental tools, and human-computer environments contributing to the development of successful user interfaces are discussed. Additionally, research topics will be explored in the areas of design principles, methodologies, implementation, and evaluating of user interfaces.

#### MISY 916 Human-Computer Interaction

Course Description: The course focuses on key factors in Human-Computer interaction. Topics include Design elements, test procedures, experimental tools, and human-computer environments contributing to the development of successful user interfaces are discussed. Additionally, research topics will be explored in the areas of design principles, methodologies, implementation, and evaluating of user interfaces.

#### MISY 917 Business Decision Support Systems

Course Description: Focus of this course is to study decision making process in business environment. Managerial role in decision making and steps involved in the process will be discussed. Theoretical modeling of decision making and practical applications will be explored using Microsoft Excel and/or other software packages. Part of the course, decision support models such as break-even analysis, goal seeking, linear programming, decision tree analysis, statistical modeling, etc. will be used in defining decision support systems to address various business scenarios.

#### MISY 918 Data Mining and Business Intelligence

Course Description: This course teaches the students business potential of big data and analytics, data warehousing, how to develop and retain data warehouses, and how to use this data for business benefit and as a source for business intelligence. Business intelligence is the use of logical software devices to study big data about an organization and its competitors in business planning and decision-making. In developing data warehouses, the course will teach the students the inter-relationships among operation, decision support structures, plan and the removal and cleaning process used to create a high quality data warehouse. Data mining theories and the use of data mining devices and techniques for decision-making and for creating business intelligence are discussed.

#### MISY 920 Software Development Process Management



Course Description: This course helps the students to understand the software development process at both the project and organization levels. In addition, it provides the students the tools to analyze software cost and schedule transaction issues. And it teaches them how to apply the principles and techniques to practical situations. Topics include statistical decision theory, software risk management.

#### MISY 921 Knowledge Management

Course Description: The course helps students to understand a framework and a clear language for knowledge management concepts, and define the Knowledge Management Cycle and Knowledge Management Models. In the addition, the students will be able to describe how valuable individual, group and organizational knowledge is managed throughout the knowledge management cycle. This course will equip the students with the skills to define the different knowledge types and how they are captured and stored, to identify some of the key tools and techniques used in knowledge management applications, to evaluate major KM issues such as knowledge ownership vs. authorship, intellectual property and knowledge sharing incentives, and to know the major roles and responsibilities in knowledge management implementations.

#### MISY 925 Public Information Management

Course Description: The course presents an introduction to computers and information management systems in public sector organizations. Topics include data management, data analysis, public systems analysis, algorithm development, data base design concepts, and design support systems. The course focuses on the study of database and network technologies; the influence and relevance of information systems in public agencies; and the review of issues of ethics, and security as related to Information Systems.

#### MISY 926 Strategic Management of Information Technology

Course Description: This course addresses some contemporary issues faced by general managers – e.g., globalization, and time compression. The course defines the information technology strategies of an organization. It will examine principles and concepts of strategic information technology systems, and systems development as it relates to information technology management strategy.

#### MISY 930 Business Information Systems & Technologies

Course Description: This course provides the fundamentals of information systems and technology in business. The focuses are on the integration of business functions, and the strategic information systems. Topics include project planning, time, risk, and resource management in many business applications. In addition, the course will introduce information systems building and prototyping.

#### MKTN 950 Entrepreneurial Marketing

Course Description: This course provides entrepreneurs with an understanding of marketing for new and small enterprises. It addresses marketing strategies. The Students will apply marketing concepts, such as creating and nurturing relationships with new customers, suppliers, distributors, employees and investors. This course brings together theory and practice to develop a comprehensive entrepreneurial business marketing plan.

#### MKTN 951 Competitive Marketing Strategies

Course Description: The course offers strategy development by discussing important

analysis of various cases from consumer, supplier, and technological markets; production and service businesses for-profit and nonprofit sectors. The students will learn how to build a marketing plan.

#### MKTN 952 Supply Chain Management

Course Description: The course offers a critical analysis of retailing strategies and e-business sites to expand the company's markets, to provide service customers, and to increase the sales. The course also discusses the critical supply chain issues involved in commerce including inventory management, transportation, procurement and warehousing. A comprehensive study of the concepts, processes, and strategies used in the development and management of global supply chains. Supply-chain management (SCM) is a systems approach to managing the entire flow of information, materials, and services from raw material suppliers through factories and warehouses to the final end-customer. Specific topics include global supply chain management, procurement, electronic commerce, information technologies, and logistics activities. SCM represents a philosophy of doing business that stresses processes and integration. This course will be taught through the use of textbook materials, outside readings, and case analysis. Overview of technologies for SCM will be discussed with focus on SAP SCM solution. Benefits of technology for the companies to run their Supply Chain in global environment.

#### MKTN 953 International Marketing

Course Description: The course presents to the students the major factors of the international marketing decisions. The student will learn about the forces that influence the global marketing environment. The course introduces students to principles, policies, procedures, ethics, and techniques used in efficient and effective international market. International product, price, promotion, and distribution issues are discussed.

#### MKTN 954 Marketing Research

Course Description: This course introduces the methods for collecting, analyzing, and interpreting data relevant to the marketing decision-making. The course focuses on structuring marketing problems, understanding the different sources of marketing research data, using particular techniques for analyzing marketing research data that helps to make better marketing management decisions.

#### MKTN 955 Strategic Application of Technology in Marketing

Course Description: This course introduces technology efficiencies into the value chain that become critical to corporate strategy. The course will review the applications of the current and emerging technologies to the strategic creation, maintenance, and communication of value within the corporate value chain. In addition, it will provide the students with an overview of strategic technology process and its principal concepts. Students are encouraged to present actual marketing issues, to bring the ideas from Silicon Valley companies for discussion.

#### MKTN 956 "Comparative Studies of MNC FDI and International Trade"

Course Description: Close linkages between ITU's offerings and the current needs and technologies of industry through active involvement with Silicon Valley leaders. Courses are created at the speed of technological innovation in the Silicon Valley with special emphasis on strong application for students to achieve competency in their respective fields of study. Proficiency in public speaking, technical writing, and critical thinking are integral parts of degree requirements. The course emphasizes technologies

and studies pertaining to sustainability and environmental protection.

#### MKTN 957 Consumer Behavior

Course Description: The course focuses on how to assess customer behavior and interprets this knowledge into marketing strategies. Topics include customer satisfaction and dissatisfaction; the role of quality, TQM, cycle time. In addition, the course introduces concepts such as, motivation, perception, knowledge, attitude, and culture on customer decision making. The course is designed for students interested in consumer, service, high-tech, or not-for-profit marketing. We will also discuss Dual Motive Theory in terms of Ego/Empathy, ethical/unethical behavior to understand how brain functions can impact human behavior and relationships.

#### MKTN 958 Marketing Management

Course Description: This course presents an approach to understand and manage the marketing function. The students will learn how to develop a written marketing plan to determine and integrate elements of a marketing strategy. Topics include market segmentation, positioning and research; product decisions; pricing; channels of distribution; advertising; promotion; new product development; and marketing budgets. The course will introduce the role of marketing in the U.S. economy and the interaction of marketing with specific business functions and with society.

#### MKTN 959 Advanced Marketing

Course Description: The course will explain the importance of marketing, which include market research, competitor analysis and the consumer analysis. The student will explore the marketing process, and concept. In addition, the course will provide a study of the relationship between the marketing mix, and the changing business environment.

#### MKTN 960 Effective Marketing Planning In Dynamic Environments

Course Description: This course will develop the implementation, control and evaluation plans. It addresses the practical aspects of appraisal, prediction and monitoring of market factors that impact organizational performance. The course will explain how marketing decisions contribute to developing and maintaining competitive advantage in dynamic markets.

#### MKTN 961 E-commerce

Course Description: This course provides introduction to e-Commerce and related subjects. The course will cover e-commerce infrastructure and its related technologies. Various business models used in e-commerce will be discussed in the lecture. The student will have knowledge of e-commerce when finishes this course. Fundamentally this ecommerce (ebusiness) course is designed for learners who want to become proficient in understanding the business transactions on the Internet and/or World Wide Web. Students study how to integrate the Internet into broader company marketing and strategy efforts including both the starting of an ebusiness and the adding of an ecommerce element to an existing business or organization.

#### MKTN 962 Marketing with Social Media

Course Description: Marketing with Social Media is a course for current and would be entrepreneurs, for start ups and well-established enterprises big and small who want to learn how best to spend time in Social Media. Facebook, Twitter, LinkedIn, Google+ and, of course, the king of all Social Media, business blogging will be explored in this course. Discussion will be given to the pros and cons of each social medium with

conclusions drawn on where best to spend time to get maximum ROI on time spent. How best to use Social Media to get real leads, real clients and real business will be at the heart of the course. Time will be spent on the developing the personality of the online marketer, Search Engine Optimization best practices and dynamic web site building and traffic generation. Real world case studies will be explored and theory will be put into practice to see what works and what does not.

#### MKTN 963 Advertising Strategy

Course Description: The course will teach the students the new world of Marketing Communication, and the importance of advertising and e-advertising. Topics include analyzing advertising campaigns, advertisements in a structured way, brand equity through advertising strategy, advertising effectiveness and creativity, and end-to-end advertising strategy campaign.

#### MKTN 964 Brand Management

Course Description: This course offers the students the knowledge to discover, study, and understand the difficulties in the building, sustainability, and influence of a brand. In this course, students learn how brand characteristics positively shape a company's performance and future, and understand the influence and value of a brand from its formation through finishing. This course presents an outline of brand improvement; brand study; and brand management structures for retails, marketing, advertising, and promotional reasons. In addition, students discover how companies build financial assets by expanding current brands and controlling brand pricing and distribution. Further topics consist of an outline of brand history, the differences between brand equity and identity.

#### MKTN 965 Supplier/Seller Management

Course Description: This course will explain all aspects of outsourcing, including planning, finding the right vendor and negotiating effectively. Topics include relationship building, creating a culture of cooperation, and skills in dealing with vendor. The course will teach the buying and selling processes that corporations use in business-to-business transactions. The focus of the course is on the concept of selling, improving value, and meeting the needs of clients through effective questioning, analysis, sales planning and presentations. The students will learn the major phases of the sales process, the sales objectives for each phase, the client needs, and the solutions' presentation. We will also discuss Dual Motive Theory in terms of Ego/Empathy, self/other behavior to understand how brain functions can impact human behavior and relationships.

#### PMGT 900 Project Management Frameworks

Course Description: This course is designed to be the main structure related to the Project Management fundamentals for students, who look to understand, practice and improve the project execution process. This is based on the best practices & Methods of Project Management implemented such PRINCE, PMI, PMBOK, and Microsoft Framework. This is to run projects in an agile organization toward effective implementation and efficient achievements.

#### PMGT 901 Strategic Planning & Portfolio Management

Course Description: This course is designed to interpret the strategic values and vision of the enterprise's Portfolio Management. The process is to recognize the company plan and strengthens its service offered in strategic business plan. The course's objective is to explain how a Project Management Oriented Business is able to divide the strategic

planning into operational goals, which are attained by each division. Service analysis measures performance in the light of the company strategy and the business environment, with the goal of choosing and performing services that generate greatest value while incurring least risk for the business.

#### PMGT 902 Mastering Project Management

Course Description: This course offers a study of project management modules including project framework, project integration, project scope, time management, cost management, quality management, human resource management, communication management, risk management, and procurement management. The course will cover the above modules in five basic project management groups: (1) Initiating, (2) Planning, (3) Executing, (4) Monitoring, and (5) Closing. In PMGT 902 class, students will be well prepared and encouraged to take PMI's PMP exam. Students will conduct team projects which are related to their job function, education background, or career development. Through conducting team projects, students will apply the project management tools and learn how to meet the three major constraints: (1) schedule, (2) cost, (3) quality.

#### PMGT 903 Technical Skills in Project Implementation

Course Description: In this course, the students will learn practical lessons about implementing and executing Projects with reference to the best practices in Project Management Operation. It is designed to give more technical mechanism about project modules and Enterprise Project Management (EPM) such (Microsoft Project, iTaskX, Merlin and Primavera) In addition to this, it give practical applications using supporting tools to design Value Chain and process management such Microsoft Visio and Mind Manager

#### PMGT 904 Project Management & Leadership

Course Description: This course covers an overview of project management with an emphasis on Leadership, theory and practice. Through in-class activities and assignments, you will learn how to apply Leadership theory to realistic project management environments. You will develop a long-range plan for reaching your individual leadership objectives, so that when you leave this course you have a roadmap to help you in your leadership quest. You will be given self-assessment activities to help you understand your current leadership traits. One of the most important aspects of this course is that you will understand yourself from a leadership perspective.

#### PMGT 905 Project Management - Agile Approach

Course Description: This course provides you with the knowledge and tools to manage projects by providing an overview of the basics of agile project management. It provides the theory and core methodology you will need to manage projects or participate on project teams that are time sensitive and require agile project management principles. This course does not make use of any project management software application, but instead focuses on the conceptual understanding that students need to know in order to successfully manage a project in a fast paced technical environment.

#### PMGT 910 Operation Management In Project Management

Course Description: The students in course learn operative skills about the main managerial components of the organizational activities, framework and the different types of mechanism of the operation management. In addition to this, the course focuses on the effective practices needed in project management, especially in the

scope description, tasks assignment, time management, and resources allocation. On the other hand, this course gives the students advanced skills about applying the different styles of communication in Project Management.

#### PMGT 911 Contract Management & Financial Planning

Course Description: This is a practical course about designing contracts and analyzing the project budget related to milestones achievement and deliverables scheduling. In joint with this, the students will learn about the project scope and implementation phases that are needed to design the required activities and charter agreement. In addition to this, they will be learning about the Project/Program Evaluation and Review Technique (PERT), Planned Value (PV), Earned Value (EV), Actual Cost (AC), Budget At Completion (BAC), Estimate To Complete (ETC), Estimate At Completion (EAC), Variance At Completion (VAC).

#### PMGT 912 Management of Organizational Changes

Course Description: The course covers the different reasons of Management Changes and presents the factors of organizational styles management. It is designed to show the diverse structure of Operation Management that rises upon strategic or drastic changes in case of mission achievement or crisis management. After this course the students will learn how to respond on requests of changes (RFC) that acquires in running certain projects or managing organizational operation.

#### PMGT 913 Business Analysis & Design

Course Description: This course is to give deep understanding and ability to design, develop and do the analysis to establish key reporting standards for a Project, Program or an Organization. The Program/Project analysis course is designed to give analytical skills to the Program/Project Manager in order to help in designing the processes management reports and study the situational status. Accordingly, to build its perspective toward managing and performing a better structure that help in managing the implementation plan. This is to come with a significant assessment and process it effectively.

#### PMGT 914 Process Mapping & Control

Course Description: This course is a practical course that puts students in the lab of analyzing and designing the structure of operation and implementation. It talks about enterprise architecture and process mapping that is needed in Project Management and Management Engineering & Restructuring. This is to give advanced analytical skills and mechanisms toward designing and drawing the operation scheme based on Computer Assisting Software Engineering (CASE). On the other hand, it shows the monitoring and control tools needed to maintain, handle and control the projects or/and program structure for systematized implementation.

#### PMGT 915 Quality Management in Project Execution

Course Description: The Quality Management course for Project Execution is a Key subject in the Project Management Life-Cycle that assures and shows the importance of following the structural phases of Project Management Implementation and the consequence of the Document management and its influence in handling and tracking the project execution in all the dimensions: Invitation For Bidding (IFB), Request for Quotation (RFQ), Purchase Request (PR), Purchase Order (PO), Sales Order (SO), Sign-Off, Preliminary & Final Acceptance Tests (PAT & FAT), Service receipt Note (SRN) and Service Delivery Acceptance (SDA).

### PMGT 920 Project Cost Management

Course Description: This course is one of the most important courses that talk about the cost analysis and financial activities including estimating, job controlling, and field data collection, scheduling, accounting and designing the project operational framework from the financial point of view. This is to give a complete overview about the controlling mechanism in Project and Operation Management. Furthermore, it covers also the requirements to control uses of data from the estimate planed on certain project with the information reported from the field to measure the cost in the project and handle its contents in order to simplify and cheapen the project experience.

### PMGT 925 Project Procurement Management

Course Description: In this course the students learn about planning the purchases and acquisition process and mechanism, where they plan their supply chain and network for outsourcing or purchasing of certain requisition and to respond to seller inquiries. Accordingly, they learn to manage the purchasing and procurement contracts for accurate and efficient implementation procedures. It focuses on showing the procedures and required assignments to outsource vendors and administer the communication with them. Furthermore, it shows the needed skills to follow on executing the required activities that the vendors provide from the service offering stage to the closing of contracts.

### SEN 663 "Unix Perl & Web Management"

Course Description: Learn how to use Unix commands and your ITU Linux account effectively. Understand Unix basic: files, pipes, jobs, redirection, globing. Basic Perl and JavaScript. Learn how to design, write, and maintain a small website. Learn how to write interactive web pages using either Perl CGI scripts or JavaScript. Learn how to run a web server on unix.

### SEN 760 SQA/Manual Testing

Course Description: No description available.

### SEN 860 SQA/manual/auto/perf Testing

Course Description: No description available.

### SEN 890 Data Structures

Course Description: Definition, design, and implementation of abstract data structures, including arrays, stacks, queues, heaps, and linked structures. Structures include hash tables, trees, and graphs. Algorithms for manipulating these structures, searching, and sorting, and the simpler graph algorithms; introduction to the analysis of some sorting and searching algorithms.

### SEN 905 Ruby on Rails

Course Description: This course offers a comprehensive introduction to Ruby on Rails, an open source web application framework for the Ruby Programming language.

### SEN 909 OO Programming with C++

Course Description: This class teaches Objected Oriented Programming using C++. A prior exposure to C is helpful but not required as the basic concept of C programming will be reviewed. The topics covered include: Syntax of C++, classes and objects, encapsulation, inheritance, polymorphism, design for reuse, programming with objects,

the standard template library, namespaces, exceptions, type casting and file input/output.

#### SEN 910 HTML/CSS Programming

Course Description: No description available.

#### SEN 911 Web Graphic Design

Course Description: The art and profession of selecting and arranging visual elements — such as typography, images, symbols, audio, video and colours — to convey a message to an audience. Sometimes graphic design is called visual communications. It is part of a collaborative discipline: writers produce words and photographers and illustrators create images that the web/Graphic designer incorporates into a complete visual message. - This course is an introduction to graphic design theory with a focus on web design. It explores techniques that top designers use for creating visually engaging web sites. Teaches the skills, knowledge, tools and the artistic guidelines needed for creating appealing, professional looking webpages. Distinction between vector and raster graphics; Adobe Illustrator (vector graphics), Adobe Photoshop (managing and editing raster graphics), Adobe Flash (animation), DreamWeaver (combining all through HTML).

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#### SEN 920 Computer Algorithms

Course Description: Algorithm design, sorting, searching, graph algorithms, stacks, queues, and dictionary implementations, divide and conquer algorithms, dynamic programming, randomized algorithms, amortized analysis, lower bound analysis, NP-Completeness.

#### SEN 930 QA/Software Testing Tools

Course Description: This course introduces the QA with test methodologies and procedures. During the course, the students go through the Manual Testing and Automation of Client/server and web based applications. The course will quickly build through each of these concepts and configuration so that by the final day of class, each student will have fully tested the application manually and convert manual test cases into automation scripts. In doing so, the students will focus on different aspects and become acquainted with additional functions.

#### SEN 932 Web Programming with C# and Dot Net

Course Description: No description available.



#### SEN 934 Principles of Database Systems

Course Description: No description available.

#### SEN 935 Data Mining

Course Description: The course provides an introduction to the theoretical concepts and practical applications of data mining. Data mining facilitates the extraction of hidden predictive information from large complex databases. It is a powerful new technology with enormous potential to help organizations and institutions extract and interpret important information. The course content includes the conceptual framework of data mining, descriptions and examples of standard methods used in data mining. Internet related data mining techniques are also covered.

#### SEN 940 Software Engineering Management

Course Description: This course covers basic software engineering elements. It focuses on techniques used throughout the software engineering process; the software lifecycle and modeling techniques for requirements specification and software design are emphasized. Both traditional and object oriented approaches are addressed. A group project gives students hands on experience developing a software requirements specification and a working prototype. This is a project-based class where students are expected to start from a narrative of the problem, and then specify output reports, analyze the problem using special data modeling techniques (entity-relationship, relational, object-oriented), design data structures, and then follow through with a prototype.

#### SEN 941 Software Engineering

Course Description: This course covers basic software engineering elements. It focuses on techniques used throughout the software engineering process; the software lifecycle and modeling techniques for requirements specification and software design are emphasized. Both traditional and object oriented approaches are addressed. A group project gives students hands on experience developing a software requirements specification and a working prototype. This is a project-based class where students are expected to start from a narrative of the problem, and then specify output reports, analyze the problem using special data modeling techniques (entity-relationship, relational, object-oriented), design data structures, and then follow through with a prototype.

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#### SEN 942 Advanced Software Engineering

Course Description: This course covers newer software development models like agile

SW development, requirements solicitation, database designs, various cooperation methods for concurrent working on large projects – CVS, programming tools, build tools (make, rake, cabal), software metrics; various roles of software engineers in the development process, leadership (coaching, listening, motivation, vision, leading by example etc.)

#### SEN 948 UI Design & Implementation

Course Description: This course introduces the principles of user interface development and the iteration of design-implementation-evaluation. We will study the important design principles to design good UI. We will see different techniques for prototyping user interfaces. We will learn techniques for evaluating and measuring usability.

#### SEN 949 JavaScript Programming

Course Description: This course introduces JavaScript as a programming language. We will talk about variables, data types, functions JavaScript OOP how to use JavaScript to access and manipulate BOM how to use JavaScript to access and manipulate DOM JavaScript event handling AJAX.

#### SEN 950 Software Architecture

Course Description: No description available.

#### SEN 951 Client Programming with JS/jQuery

Course Description: No description available.

#### SEN 953 Compiler Design

Course Description: This course is an introductory course on the design and implementation of compilers. It covers 4 main topics (1) The front end section includes scanning, parsing and context-sensitive analysis of the source program; (2) The infrastructure section provides the background knowledge needed to generate intermediate code in the front end, to optimize that code, and to transform it into code for a target machine; (3) The optimization section introduces optimizer, a compiler's middle section; (4) The code generation section includes instruction selection, instruction scheduling and register allocation.

#### SEN 953 Compiler Design

Course Description: This course is an introductory course on the design and implementation of compilers. It covers 4 main topics1.The front end section includes scanning, parsing and context-sensitive analysis of the source program;2. The infrastructure section provides the background knowledge needed to generate intermediate code in the front end, to optimize that code, and to transform it into code for a target machine;3. The optimization section introduces optimizer, a compiler's middle section;4. The code generation section includes instruction selection, instruction scheduling and register allocation.

#### SEN 954 Server Programming with PHP

Course Description: PHP is one of the best server-side technologies for handling Web content easily and efficiently. PHP is a free, open-source language devoted primarily to handling dynamic web pages and used by millions of sites worldwide. It can be integrated with HTML and handle databases. The course starts with the development environment and the language syntax. It introduces the concepts of OOP in PHP at different levels. It also covers the interactions with HTML web pages and databases.

PHP Ajax support is introduced as the advanced topic. Practical examples and sample codes will be given. Upon successful completion of this course, students will gain hands-on experience with PHP syntax and constructs such as variables, arrays, strings, loops, user-defined functions and how to integrate HTML and PHP code to manage and process data.

#### SEN 956 The Unix Operating System

Course Description: This course focuses on the practical usage of the basic Unix operating system features. It introduces the student to the general principles of modern operating systems: preemptive multiprocessing; and of Unix in particular: shells, environment, shell variables, processes, threads, interprocess communication, the Unix file system, and shell scripts. Upon completion of this course the student will be able to work efficiently in a Unix environment, to tailor an environment to specific needs, to understand the basics of Unix system administration, to understand security risks, to write C programs that use system calls, and to write scripts for the C shell.

#### SEN 957 GUI Development with Java

Course Description: Teaches the principles of Graphical User Interfaces (GUI) and develops GUIs using Java's AWT and Swing libraries. Knowledge of and ability to use these libraries is of paramount importance in almost all of today's software development and is not limited to development of Android Phone applications. The learning and programming of GUIs is most effective and rewarding using these Java libraries, considered by many as the best, simplest and most elegant of all GUI development tools and libraries. (Most Java GUI developers don't use any visual development tools, since the design and concept of Java's GUI libraries itself is so natural and easy to understand, that visual development tools become redundant). Teaches the basic principles of graphical user interfaces, the widget hierarchies, event handling mechanisms, event queue management, thread handling etc. It is in most ways a parallel course to SEN 961 except for the language and component libraries used.

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#### SEN 958 Android Phone Application Development

Course Description: Teaches the use of SDKs released by Google to facilitate the development of applications for the Android Phone. Android Phones are Linux based and are programmed in Java. This alone bodes very well for any software development on that platform: The Linux OS, the most powerful and easiest to manage of all operating systems, and the Java programming language with its superior GUI development capabilities. Knowledge of SDKs is certainly an advantage when

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#### SEN 960 SQA/Performance Testing

Course Description: No description available.

#### SEN 961 Cloud Computing

Course Description: Introduction to cloud computing, cloud architecture and service models, the economic and benefits of cloud computing, horizontal/vertical scaling, thin client, multimedia content distribution, multiprocessor and virtualization, distributed storage, security and federation / presence/ identity/ privacy in cloud computing, disaster recovery, free cloud services and open source software, and example commercial cloud services.

#### SEN 962 Web page design with HTML and Java

Course Description: No description available.

#### SEN 963 OO Programming with Python

Course Description: Learn how to use Unix commands and your ITU Linux account effectively. Understand Unix basic: files, pipes, jobs, redirection, globing. Basic Perl and JavaScript. Learn how to design, write, and maintain a small website. Learn how to write interactive web pages using either Perl CGI scripts or JavaScript. Learn how to run a web server on unix.

#### SEN 963 Python Programming

Course Description: Learn how to use Unix commands and your ITU Linux account effectively. Understand Unix basic: files, pipes, jobs, redirection, globing. Basic Perl and JavaScript. Learn how to design, write, and maintain a small website. Learn how to write interactive web pages using either Perl CGI scripts or JavaScript. Learn how to run a web server on unix.

#### SEN 964 OO Programming with Java

Course Description: This course focuses on the Java language as a tool for object-oriented programming. It introduces the student to the basic features of the Java language: primitive data types, terminal window-keyboard I/O, file I/O, classes, constructors and initialization, references vs. objects, access modifiers, memory maps, control structures, arrays, inheritance, function overloading and overriding, dynamic binding, interfaces, command line arguments, and exception handling. Some instruction to the platform-independent Java GUI API with Swing will be provided.

#### SEN 965 I-Phone Application Development I

Course Description: This course provides a training in iPhone application development including: Introduction to Objective-C; iPhone technologies: multi-touch interface,

accelerometer, GPS, maps, proximity sensor, dialer, address book and calendar. It helps students to understand the business aspects of an application development.

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#### SEN 966 Advanced iPhone Application Development

Course Description: This course teaches in depth the features of Objective-C, the UI class library, its use in I-Phone application development, the architecture of I-Phone applications, event handling mechanisms, exceptions, threads; the use of Interface Builder, and the Quartz library in writing high quality, complex i-Phone applications.

#### SEN 967 Web Programming with Ajax

Course Description: This course provides a comprehensive introduction to AJAX, the most popular web technique for creating better, faster and more interactive and user-friendly web applications. The students will not only learn the basic concepts and the low-level implementation of AJAX technology but also be introduced a set of popular AJAX toolkits.

#### SEN 968 Design and Maintenance of commercial web sites

Course Description: This course focuses on the basic concepts of setup, designing and maintaining commercial websites. It introduces both the principles and skills of building websites that people will visit, use, bookmark and revisit. It covers the entire website building process from server setup and site planning to the designs of both the server-side storage and the client-side presentation.

#### SEN 970 OO Programming with Objective-C

Course Description: This course focuses first on teaching the Objective C language, its syntax, design, features, and capabilities, then on introducing the Cocoa Library, then on developing GUI applications using Interface Builder. Objective C is the principal language for application development on Apple's Mac OS X and iPhone. On the Mac OS it is used together with Cocoa (the NS class library) and on the iPhone together with the UI class library. The course teaches in detail the syntax and features of the language, supported by many programming examples, drill quizzes and homework. It will use the Cocoa API and the Interface Builder to develop example applications for the Mac with a graphical interface. It starts with development of OC programs on the command line. Later the X-code IDE together with the Cocoa library and IB will be used for development. No textbook is used for the lecture, instead the student is given lecture notes on this website, that explain the whole material.

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#### SEN 972 Java EE Programming

Course Description: No description available.

#### SEN 974 Client/Server and Internet

Course Description: No description available.

#### SEN 975 Application Development with GWT

Course Description: No description available.

#### SEN 982 Oracle Database Architecture & Administration

Course Description: This course introduces Oracle as a practical example of a widely used database system, teaches basic database concepts, data definition and manipulation languages (SQL), general architecture of database management systems, transaction management, concurrency control, security, distribution, and query optimization.

#### SEN 982 Oracle Database Management/Administration

Course Description: This course introduces Oracle as a practical example of a widely used database system, teaches basic database concepts, data definition and manipulation languages (SQL), general architecture of database management systems, transaction management, concurrency control, security, distribution, and query optimization.

#### SEN 985 Artificial Intelligence

Course Description: This course introduces the foundation of simulating or creating intelligence from a computational point of view. It covers the techniques of reduction, reasoning, problem solving, knowledge representation, and machine learning. In addition, it covers applications of decision trees, neural networks, support vector machines and other learning paradigms.

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#### SEN 991 Computer Graphics

Course Description: Historical development of computer graphics, black and white graphiCS programming, color raster graphics, resolution and memory requirements, look-up tables, vector graphiCS and matrices, surfaces, rotation & scaling, graphiCS primitive, and transformation.

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#### SEN 992 Advanced Computer Graphics

Course Description: The course gives students hands-on experience and thorough understanding of the most important computer graphiCS principles. It uses Java and its built-in graphiCS capabilities to give the student programming experience in 2D and 3D computer graphics, coordinate transformations, linear 2D and 3D transformations, projections, 3D geometry; color computations, RGB and CMYK color systems, simulation of curved surfaces through Gouraud and Phong shading, hidden surface removal through the Z-buffer technique; also, some animation principles. Introduction to the most important Computer GraphiCS hardware.

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#### SEN 993 Computer Graphics with WebGL

Course Description: HTML5, released in March 2011, brings with it a variety of enhancements, including enhancements to the JavaScript language and powerful 2D and 3D graphiCS capabilities. They consist of a library of function calls of the canvas element's rendering context, that are embedded in JavaScript. Another feature is the use of shaders, that are programmable portions of the rendering pipeline. These must be programmed in the OpenGL shading language.

#### SEN 996 Independent Study

Course Description: By arrangement with instructor. Independent study of topics of special interest in software engineering under the direction of an instructor, who is knowledgeable in the field. It may consist of reading, homework, tests, presentation and project determined by the instructor.

#### SEN 998 Project

Course Description: By arrangement with the project advisor. The student must conduct independent research in an approved topic in software engineering, prepare a report and defend it before a faculty advisor.

#### SEN 999 Thesis

Course Description: By arrangement with thesis advisor. Independent research in software engineering toward the MS degree must be conducted if the thesis topic is approved. The student must prepare a thesis, and defend it before a committee of faculty designated by department chair.

## Math Courses

### AMN 910 Linear Algebra

Course Description: This course covers the algebraic basic concepts of matrices and matrix operations, determinants, systems of linear equations, Gauss elimination, LU decomposition, vector spaces with inner product. Change of bases, transformations. Gram-Schmidt orthonormalization. Meaning and purpose of eigenvalues, eigenvectors and algorithms for computing them.

### AMN 912 Applied Mathematics Methods

Course Description: This course is intended to provide introduction and accessibility to ordinary and partial differential equations, linear algebra, vector analysis, Fourier analysis, special functions, and eigenfunction expansions for their use as tools of inquiry and analysis in modeling and problem solving.

### AMN 920 Optimization Techniques

Course Description: Basic concepts, unconstrained optimization, linear programming, simplex method, degeneracy, multidimensional optimization problems involving equality or inequality constraints by gradient and non-gradient methods.

### AMN 921 Advanced Optimization Techniques

Course Description: Combinatorial optimization, Hopfield neural network model, Simulated Annealing and Stochastic machines, mean field annealing, genetic algorithms, Applications to: Tabu search, traveling salesman problems, telecommunications problems, quadratic 0-1 & quadratic assignment problems, graph partition and graph bipartition problems, point pattern matching problems, multiprocessor scheduling problems.

### AMN 922 Advanced Applied Mathematics Methods

Course Description: This course has not been taught since the switch to Moodle in 2007. No related data are available in the EMS.

### AMN 930 Numerical Analysis

Course Description: Numerical solution of linear system of equations by direct method and iterative method, numerical least square problem, eigenvalue problem, numerical solution of non-linear systems of equations and optimization problem.

### AMN 940 Discrete Mathematics

Course Description: This course covers topics that are important in the development of computer algorithms and data structures, such as mathematical induction, asymptotic notations, recurrences, infinite series summations, graphs, digraphs, trees and counting combinatorics and discrete probabilities analysis and statistical quality control.

### AMN 945 Number Theory

Course Description: No course description available.



#### AMN 950 Fast Fourier Transformation & Applications

Course Description: This course is designed to provide electrical/computer engineering and applied mathematics graduate students with the background knowledge of Fourier Transformations (FT), Discrete Fourier Transformations (DFT) and Fast Fourier Transformations (FFT). The applications of FFT in Filter Design, Signal Processing and Image Processing are also included in this course.

#### AMN 952 Probability & Statistics for Engineers

Course Description: This course covers the fundamentals of probability and statistics, as well as some widely-used probabilistic models and statistical analysis methods for applications in the areas of engineering. Topics include probability axioms, random variables, densities, basic discrete and continuous distributions, sampling distribution and data descriptions, inferences on means and variances, one- and two-sample tests of hypotheses, linear regression, and analysis of variance. A free statistical computing and graphics software, R, will be used in this course.

## **STUDENT ACTIVITIES AND SERVICES**

### **ACADEMIC ADVISEMENT**

Each student is assigned an academic advisor, who will on a regular basis give academic advice regarding the student's progress.

### **PLACEMENT ASSISTANCE**

ITU provides a variety of services to assist students in clarifying, planning, and achieving their career goals. Workshops will be held regularly on career planning, including self-assessment, resume writing, interviewing skills, and job search strategies. Programs will be developed that bring professionals from various fields to present information concerning career opportunities weekly in the Joint Seminar class required of all students. Students are encouraged to take advantage of this exposure to industry leaders and continually collect networking contact information from the Joint Seminar class. A special program of informational interviewing will link students with alumni in a variety of fields.

### **STUDENT HEALTH, SAFETY, AND HOUSING**

All full-time students are required to have their own medical insurance coverage. ITU will assist them in contacting appropriate insurance companies. The University does not provide on-campus housing for students. However, students should not have difficulty finding accommodations near campus. Average monthly rent of a single room ranges from \$400-\$550.

### **STUDENT COUNCIL**

The ITU Student Council offers students the opportunity to participate in the governing of the institution. Elected officers interact regularly with assigned faculty advisors to coordinate student functions, organize extra-curricular activities, and offer student input concerning university policy.

### **STUDENT ORGANIZATIONS AND ALUMNI ASSOCIATION**

Students at ITU are free to organize and to join associations whose stated purpose is consistent with the University's mission. All student organizations seeking ITU support must be registered. The ITU Alumni Association is operated under the Chancellor's Office of the University, keeping a current list of all alumni, and conducting alumni activities on a regular basis such as class reunions and career counseling.

## **ACADEMIC ACHIEVEMENT RECOGNITION**

Faculty and student awards are given annually during commencement ceremonies to recognize the outstanding achievements of faculty, staff, and students.

## **STUDENT TUITION RECOVERY FUND PAYMENT**

The State of California created the Student Tuition Recovery Fund (“STRF”) to relieve or mitigate economic losses suffered by students who are California residents, or are enrolled in a residency program attending certain schools regulated by the Bureau for Private Postsecondary and Vocational Education.

Students must pay the state-imposed assessment for the STRF if all of the following applies:

1. Students who are California residents, or are enrolled in a residency program, and prepay all or part of the tuition either by cash, guaranteed student loans, or personal loans, and
2. Total charges are not paid by any third party, such as an employer, government program or other payer, unless students have a separate agreement to repay the third party.

Students are not eligible for protection from the STRF and not required to pay the STRF assessment, if either of the following applies:

1. Students who are not California residents, or are not enrolled in a residency program, or
2. Total charges are paid by a third party, such as an employer, government program or other payer, and students have no separate agreement to repay the third party.

Students may be eligible for STRF if students are California residents or are enrolled in a residency program, prepaid tuition, paid the STRF assessment, and suffered an economic loss as a result of any of the following:

1. The school closed before the course of instruction was completed.
2. The school's failure to pay refunds or charges on behalf of a student to a third party for license fees or any other purpose, or to provide equipment or materials for which a charge was collected within 180 days before the closure of the school.
3. The school's failure to pay or reimburse loan proceeds under a federally guaranteed student loan program as required by law or to pay for reimburse proceeds received by the school prior to closure in excess of tuition and other costs.
4. There was a material failure to comply with the Act or this Division within 30 days before the school closed or, if the material failure began earlier than 30 days prior to closure, the period determined by the Bureau.
5. An inability after diligent efforts to prosecute, prove, and collect on a judgment against the institution for a violation of the Act.



## **FACILITIES**

### **LIBRARY & INFORMATION CENTER**

Information Resource Center, ITU Campus:

ITU also has an on-site library which is filled with informational books and extra laptops to assist students with their research endeavors. There are books regarding healthcare, computer programming, networking, and more for students to utilize in their studies.

Information Center Services:

- Rent Laptops
- Purchase Copies or Printouts
- Apply for ITU Student ID

In order to apply and receive your Student ID, please follow these instructions:

1. Students can either download the Student ID Application Form, or pick up a physical copy from the Admissions office or ITU Library.
2. Students can submit the completed form to the ITU Library along with copies of their certificates of admission, acceptance letters, State issued ID, and copies of tuition receipt. The library is located on ITU's first floor of the West Wing of campus.
3. ID photos must be taken in the library.
4. All requests are usually processed within five (5) business days after the completed application form is received. Processing time may be longer during peak times.
5. An email notification will be sent when the Student ID is available for pick-up. You must bring a valid government issued photo identification prior to receiving your ITU Student ID.

Please note we will charge \$10 for stolen or lost Student ID cards.

Dr. Martin Luther King, Jr. Library, San Jose, CA:

Dr. Martin Luther King, Jr. Library serves as ITU's principal research library. It hosts textbooks and reference materials for all of our courses. In addition to our on-campus library, our agreement with the King Library ensures access to research material in order to aid students in completing projects and assignments. Through our student learning resource channels, students can explore industry journals and published works that are updated and relevant. As ITU emphasizes that students have a strong awareness of industry news, they are encouraged to take advantage of our learning resources for their academic success.

Address:  
150 East San Fernando Street  
San Jose, CA 95112  
(408) 808-2000

International Technological University has an agreement with the San Jose Public Library that gives our students, faculty and staff access to our shared resources. If you have any questions concerning access and available resources, please visit the San Jose Public Library website. Here are the steps students can take to attain their San Jose Public Library card:

**SJSU LIBRARY CARD APPLICATION PROCEDURE:**

1. Go to [http://catalog.sjlibrary.org/search/\\$](http://catalog.sjlibrary.org/search/$) to fill out your application
2. Stop by any San Jose library with your Photo ID (i.e. California Driver License, Green Card, or Passport) and proof of your current California address (i.e. paystubs, utility bills, driver license, or piece of postmark within 30 days) to receive and activate your card.

Note: If you can show a photo ID but not proof of your current address, you can get what we call a "Limited Status" Library Card, which allows you to borrow 1 item at a time.

1. If you had a San Jose Public Library card during the past two years, DO NOT FILL OUT THIS FORM. Please visit any San Jose Library with your current photo ID and Proof of address if you need a replacement card.
2. Create your online login to be able to access library databases.

Note: If you use a library owned desktop computer, you can access most SJSU databases and all SJPL databases. If you use your own laptops with your wireless connection, SJSU network views it as offsite access so you would only have access to SJPL databases. You would need to have a library card and a Pin# for offsite access which they would also use to access the wireless network.

## **RESEARCH LABS**

There are four research labs: Artificial Intelligence Lab, Bio-Electronics, Embedded Research, and Green Energy Research Labs. All labs are led by the industrial experts and ITU professors for researching the cutting edge technologies and products. Both labs provide the latest tools for best research and practice such as Synopsys and Cadence tools.

## **ITU BASKETBALL COURT**

ITU's basketball court is open to students. Students must bring their own equipment. Shoes that make dark marks are prohibited, and it is advised that students bring athletic clothing.

## **STUDENT LOUNGE**

The student lounge is an area designated for students to sit and relax while studying. You'll find a billiards table, multiple areas to sit and study, and printing services.

## **UNIVERSITY OFFICERS**

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