Silicon Valley University

2012-2013 Catalog

SILICON VALLEY UNIVERSITY
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SVU 2012 - 2013 ACADEMIC CALENDAR

FALL 2012		< SEPTEMBER 10 – DECEMBER 22, 2012 >
September, 2012		
03	Mon	Labor Day (campus closed)
10	Mon	Classes begin
		Student Orientation for Fall Trimester 2012
12	Wed	English placement examination
17	Mon	1st session of ESL classes begins
21	Fri	Last day to add / drop courses
28	Fri	Last day of OPT application for Summer 2012 graduates
29	Sat	Official graduation day for Summer 2012
October, 2012		
26	Fri	1st session of ESL classes ends
October 29 – November 03	Mon-Sat	Course review / Midterm examination
November, 2012		
02	Fri	First day of OPT application for Fall 2012 graduates
05	Mon	2nd session of ESL classes begins
09	Fri	Last day for graduation petition
19	Mon	First day of early registration for Spring Trimester 2013
22 – 23	Thurs-Fri	Thanksgiving Holidays (campus closed)
December, 2012		
14	Fri	2nd session of ESL classes ends
17 – 22	Mon-Sat	Course review / Final examination
24	Mon	First day of trimester recess (2 weeks school break)
24 – 25	Mon-Tues	Christmas Holidays (campus closed)
December 31 – January 01	Mon-Tues	New Year's Eve & New Year's Day (campus closed)
January, 2013		
07	Mon	Classes begin
		Student Orientation for Spring Trimester 2013
09	Wed	English placement examination
14	Mon	1st session of ESL classes begins
18	Fri	Last day to add / drop courses
30	Wed	Last day of OPT application for Fall 2012 graduates
31	Thurs	Official graduation day for Fall 2012

SPRING 2013		< JANUARY 07 – APRIL 20, 2013 >
January, 2013		
01	Tue	New Year's Day (campus closed)
07	Mon	Classes begin
		Student Orientation for Spring Trimester 2013
09	Wed	English placement examination
14	Mon	1st session of ESL classes begins
18	Fri	Last day to add / drop courses
30	Wed	Last day of OPT application for Fall 2012 graduates
31	Thurs	Official graduation day for Fall 2012
February, 2013		
18	Mon	President's Day (campus closed)
22	Fri	1st session of ESL classes ends
February 25 – March 02	Mon-Sat	Course review / Midterm examination
March, 2013		
01	Fri	First day of OPT application for Spring 2013 graduates
04	Mon	2nd session of ESL classes begins
08	Fri	Last day for graduation petition
April, 2013		
01	Mon	First day of early registration for Summer Trimester 2013
12	Fri	2nd session of ESL classes ends
15 – 20	Mon-Sat	Course review / Final examination
22	Mon	First day of trimester recess (2 weeks school break)
May, 2013		
06	Mon	Classes begin *(regular and intensive session begin)
		Student Orientation for Summer Trimester 2013
08	Wed	English placement examination
13	Mon	1st session of ESL classes begins
17	Fri	Last day to add / drop courses
27	Mon	Memorial Day (campus closed)
30	Thurs	Last day of OPT application for Spring 2013 graduates
31	Fri	Official graduation day for Spring 2013

SUMMER 2013		< MAY 06 – AUGUST 17, 2013 >
May, 2013		
06	Mon	Classes begin *(regular and intensive session begin)
		Student Orientation for Summer Trimester 2013
08	Wed	English placement examination
13	Mon	1st session of ESL classes begins
17	Fri	Last day to add / drop courses
27	Mon	Memorial Day (campus closed)
30	Thurs	Last day of OPT application for Spring 2013 graduates
31	Fri	Official graduation day for Spring 2013
June, 2013		
17 – 19	Mon-Wed	Course review / Final examination *(summer intensive session)
19	Wed	*Summer intensive session ends
21	Fri	1st session of ESL classes ends
24 – 29	Mon-Sat	Course review / Midterm examination
July, 2013		
01	Mon	First day of OPT application for Summer 2013 graduates
		2nd session of ESL classes begins
04	Thurs	Independence Day (campus closed)
05	Fri	Last day for graduation petition
29	Mon	First day of early registration for Fall Trimester 2013
August, 2013		
09	Fri	2nd session of ESL classes ends
12 – 17	Mon-Sat	Course review / Final examination
19	Mon	First day of trimester recess (3 weeks school break)
24	Sat	Graduation Commencement

*Summer Intensive Session consists of core and pre-requisite courses which will be taught in 7 & 1/2 weeks. Students are required to attend classes two times per week instead of once per week.

FALL 2013		< SEPTEMBER 09 – DECEMBER 21, 2013 >
September, 2013		
02	Mon	Labor Day (campus closed)
09	Mon	Classes begin
		Student Orientation for Fall Trimester 2013
11	Wed	English placement examination
16	Mon	1st session of ESL classes begins
20	Fri	Last day to add / drop courses
30	Mon	Last day of OPT application for Summer 2013 graduates
		Official graduation day for Summer 2013
October, 2013		
25	Fri	1st session of ESL classes ends
October 28 – November 02	Mon-Sat	Course review / Midterm examination
November, 2013		
01	Fri	First day of OPT application for Fall 2013 graduates
04	Mon	2nd session of ESL classes begins
08	Fri	Last day for graduation petition
28 – 29	Thurs-Fri	Thanksgiving Holidays (campus closed)
December, 2013		
02	Mon	First day of early registration for Spring Trimester 2014
13	Fri	2nd session of ESL classes ends
16 – 21	Mon-Sat	Course review / Final examination
23	Mon	First day of trimester recess (2 weeks school break)
25 – 26	Wed-Thurs	Christmas Holidays (campus closed)
31	Tue	New Year's Eve (campus closed)
January, 2014		
01	Wed	New Year's Day (campus closed)
06	Mon	Classes begin
		Student Orientation for Spring Trimester 2014
08	Wed	English placement examination
13	Mon	1st session of ESL classes begins
17	Fri	Last day to add / drop courses
30	Thurs	Last day of OPT application for Fall 2013 graduates
31	Fri	Official graduation day for Fall 2013

THE UNIVERSITY

Mission & Goals

The primary mission of Silicon Valley University **(SVU)** is to provide excellent educational programs in both undergraduate and graduate levels to equip and prepare students with the right set of knowledge and skills for careers in the high tech industry and competitive global business arena.

This mission is accomplished by leveraging Silicon Valley's expertise in technology and business sectors to:

- Provide students with faculty who are experts in their field and are currently working in the high tech industry and global business sectors;
- Provide students with a learning environment that utilizes the latest available technology in use in the work place;
- Acquaint students with the fundamental academic principles, theories and concepts governing their career fields;
- Prepare students with the practical skills necessary for performing at the highest levels in their chosen professions;
- Develop the capacity for independent and critical thinking;
- Cultivate professionalism appropriate for today's workplace; and
- Promote entrepreneurship by encouraging new ideas for business initiatives and product development.

Campus Description

SVU is located in Silicon Valley (San Jose, California) which is the hub of the US high-tech industry and global business. The university occupies space in a Class A office building. The instructional space consists of large classrooms for delivery of multimedia presentations to large groups as well as rooms suitable for small-group discussions.

The cutting edge technologies such as Apple iOS Developer University Program, Apple iTunes University Program, ORACLE Database Lab, SAP and ORACLE E-Business (ERP) Lab, and Computer Aided Design (CAD) Lab are utilized in the campus. The most advanced RFID technology is utilized for taking class attendance, which is performed on an Apple iPad that acts as campus kiosk guide system.

To support mobile internet and cloud computing, the whole digital campus fully covered by 802.11 a/b/g/n Wi-Fi access points back-hauled to FE/GE/10-GE backbone network switch hierarchic in the 7/24 air-conditioned private data center. The data center rack-mounted several private cloud server farms, including but not limited to (i) Apple iTunes U Channel & Google Education Apps and storage disk array (ii) an Oracle database server cluster and storage disk array (iii) an Oracle e-Business server cluster and (iv) a Cadence Computer Aided Design server.

Via Wi-Fi access point and backbone switch infrastructure plus internet, so that students, faculty, and staff can use mobile internet devices (i.e., Apple iPad, Apple iPhone, Android Tablet, Android Phone, Macbook Air, Google Tablet, Ultrabook, or Microsoft Surface) to access cloud computing inside the whole digital campus. If the license permitted through proxy servers, the students can access anything and learning from anywhere and anytime outside the school digital campus.

Customized Apple iPhone apps provide services for not only our current students, but also for future students such that they will receive the latest school news and events information, check application status, and apply for university through the apps.

Electronic Resource Center & Library Access

As part of its effort to provide instruction using the latest internet technologies, the university has established a web-based Electronic Resource Center, a digital research facility, to provide students with the opportunity to make maximum use of the virtually limitless resources available on the internet. The university has an onsite library which contains publications in the fields of Business, Computer Science and Engineering, and General Education, etc. Faculty members and students also have remote access to major professional journals and mass media publications such as ProQuest, ProQuest/ABI, IEEE, and ACM Databases.

The University library serves its faculty and students at no cost. You are expected to follow the library policy to check out books or use our resources. Our library has a few thousand books. Students and faculty can log into our network at no cost.

> **Library Hours:**
> Monday through Friday: 11 am to 7 pm
> Saturday: 11am to 3pm

The university has an arrangement with California State University in San Jose (CSUSJ) which allows our students full access to the CSUSJ library. Students may check out books and other materials from the CSUSJ library and utilize the CSU inter-library loan program. Our students can also receive library cards allowing access to the Alameda County and Santa Clara County public library system and the public inter-library loan system as well.

Laboratory Facilities and Access

The university's class room and research facilities are equipped with state-of-the-art computer systems, computer network infrastructure and high speed internet access. The campus deploys wireless LAN access in every computer lab and classroom.

Apple iOS Developer University Program Membership

SVU has joined the Apple iOS Developer University Program to provide a wide range of technical resources to assist students in design, development, and testing. The iOS apps include iOS Dev Center, iOS Developer Library, and Development Videos.

Apple iTunes University Program Membership

SVU has joined the Apple iTunes University program to offer online class material for allowing students to download streaming video and documents to PCs, laptops, and/or mobile devices/equipment.

Microsoft MSDN Academic Alliance (MSDNAA) Membership

SVU has subscribed to Microsoft MSDN Academic Alliance (MSDNAA) membership to make the latest Microsoft software available in labs and classroom. Microsoft MSDNAA program offers Microsoft developer tools for science, Technology, Engineering, and Math Departments, including the up-to-date Visual Studio, Windows Operating Systems, Windows Server, .NET Framework, Computer cluster server, SQL server, Mobile SDK and more than 300 tools.

In addition to Microsoft Windows system, Linux/Unix systems are also provided to students in each lab.

ORACLE Database Lab

The campus data center is equipped with high-capacity ORACLE Real Application Clusters Database servers, CADENCE Electronic Design tool servers, a DHCP server, a DNS server, mail and web servers.

SAP/ORACLE E-Business (ERP) Lab

SVU has joined a membership with Higher Education User Group (HEUG) and University Alliance Program offered by SAP (Acronym of Systems, Applications, and Products in Data Processing) North America to use the tools from Oracle E-Business Suite and SAP software for faculty members and students to enhance the academic and professional learning outcomes. The Oracle E-Business Suite and SAP software tools has been integrated into the business curriculum such as Enterprise Resources Planning (ERP), Human Capital Management (HCM), Supply Chain Management (SCM), Business Process Management (BPM), Customer Relationship Maintenance (CRM), Project Management (PM), Logistic Management (VCP & VCE), and Accounting and Finance (ACCT/FN). The tools from Oracle E-Business Suite, Oracle Financials Applications, and SAP software will provide students with hands-on experiences and enhance learning experience by equipping students with marketable skills.

Computer Aided Design (CAD) Lab

Silicon Valley University is a member of CADENCE design tool users group. Silicon Valley University provides CADENCE computer-aided electronic design tools to students and faculty. CADENCE tools offer proven solutions for every aspect of electronic design. Leading semiconductor, computer systems, communications equipment, and consumer electronics companies around the world rely on CADENCE tools to design their products. CADENCE design package includes System-level design bundle, Design and verification bundle, Custom integrated circuits bundle, Deep submicron bundle, and PCB systems bundle, which is sufficient for chip-level and board-level design.

Data Communication/Telecommunication Lab

Silicon Valley University offers a state-of-the-art lab equipped with Cisco routers, Cisco 3560 switches, Linksys wireless routers, Apple Computer wireless routers, VPN remote access servers, and Oracle RAC Database servers. Students can access these resources from home or any onsite networked workstation to configure or control this equipment.

Students can access these resources from any onsite networked workstation to learn how to use these latest tools for course work.

Accreditation Approval Status

Silicon Valley University is accredited by the Accrediting Council for Independent Colleges and Schools (ACICS) to award Bachelor's Degrees, Master's Degrees, and Certificates.

The Accrediting Council for Independent Colleges and Schools is listed as a nationally recognized accrediting agency by the United States Department of Education and the Council for Higher Education Accreditation. SVU has been granted Institutional Approval by Bureau for Private Postsecondary Education (BPPE) Their contact information is:

Corporate Status

Silicon Valley University is organized under California Corporate Law as a nonprofit, public-benefit corporation and is deemed tax-exempt, as applies to corporations falling within the IRS 501(c)(3) ruling.

SILICON VALLEY UNIVERSITY ADMINISTERS ALL ITS PROGRAMS WITHOUT REGARD TO RACE, ETHNIC ORIGIN, AGE, OR SEX. SVU DOES NOT DISCRIMINATE IN THE ADMINISTRATION OF ITS EDUCATIONAL POLICIES, ADMISSIONS POLICIES, SCHOLAR-SHIPS, OR OTHER SCHOOL ADMINISTERED PROGRAMS.

Governing Board

SVU is governed by its Board of Trustees. The Board of Trustees consists of the following people:

Dr. Jerry Shiao
President of SVU
San Jose, California
Chairman of the Board

Ms. Seiko Cheng
Co-Founder of SVU
San Jose, California
Treasurer of the Board

Dr. Len-Yi Leu
Senior Director of TSMC
San Jose, California
Secretary of the Board

Dr. Mark Chen
CEO, Agnes USA Corporation
Fremont, California

Ms. Ellie Chou
City Council
Kaohsiung, Taiwan, ROC

They provide voluntary service and receive no remuneration for their services on the Board, as SVU is a nonprofit, public-benefit educational institution.

UNIVERSITY PROGRAMS

Degree Programs
Bachelor of Science in Computer Science (BSCS)
Bachelor of Science in Computer Engineering (BSCE)
Bachelor of Business Administration (BBA)
Master of Science in Computer Science (MSCS)
Master of Science in Computer Engineering (MSCE)
Master of Business Administration (MBA)
Doctor of Computer Engineering (DCE)

Certificate Programs

Computer Engineering and Telecommunication Engineering
Database Design and Software Engineering
English as a Second Language (ESL)

ADMISSION TO THE UNIVERSITY

General Admission

SVU is an equal opportunity institution. Graduation from high school or its equivalent is necessary for enrollment. Students are admitted on the basis of their projected ability to meet academic standards. The university evaluates both objective and subjective data to select its students. The factors that are taken into consideration during the selection process include, but are not limited to: the potential of the candidate to successfully complete the desired program, the candidate's past academic performance record, and the amount and quality of the candidate's prior experience and training.

The university's application and selection procedures for its programs include the following requirements:

A) Applicants must submit a completed University Application for Admission and pay a nonrefundable application fee in the form of a check or money order payable to "Silicon Valley University."

B) All applicants must arrange to submit official transcripts from previously attended institutions. Students holding foreign degrees must make arrangements with SVU administration to have prior credit hours evaluated for equivalency. Contact SVU for further information regarding this process.

C) Students planning to attend SVU must submit their application material and associated documents before the deadlines posted in the academic calendar. Each trimester has a separate deadline.

Certificate Programs

Applicants to a Certificate Program (except ESL) must have a bachelor's degree or equivalent and have completed enough basic Math and computer science courses to successfully perform the required work. The Certificate Programs are non-degree programs, which do not offer credits for classes taken. All applicants to a Certificate Program must complete an enrollment application and pay a nonrefundable application fee in the form of a check or money order made payable to "Silicon Valley University."

Bachelor's Degree Programs

Admission Directly from High School
Exceptionally qualified high school graduates who have fewer than 40 credit hours of college credit may be granted admission. These students must submit the high school official transcript showing a minimum GPA of 1.75 (or its equivalent such as GED), and copy of the diploma for admission.

Maximum Transfer Requirements
The maximum number of credit hours that can be transferred prior to enroll in SVU from another accredited institution towards a Bachelor degree at SVU is 72.

Lower Division Requirements
Applicants who have not met all of the lower division requirements (see section on Undergraduate Programs) upon application may be accepted pending completion of those requirements before graduation. An individual evaluation of accepted transfer credits as well as general education deficiencies will be provided by the university at the time admission is offered.

Lower division courses that are not yet taught at the university must be taken at local community colleges or otherwise approved accredited institutions in order to successfully meet the program requirement.

Master's Degree Programs

All applicants to a Master's degree program must hold a Bachelor of Arts, a Bachelor of Science, or an equivalent degree from an accredited or approved college or university to be admitted to a Master's program at SVU. An official transcript with the student's baccalaureate degree must be submitted to the university. Students must also demonstrate adequate proficiency in mathematics and English. Students lacking this proficiency may still be admitted as conditional students; however students must take the appropriate courses required to achieve the proficiency.

All applicants to a Master's degree program must have a Bachelor degree or its equivalent from an accredited institution with a minimum GPA of 2.5.
All applicants to a Master's degree program must submit previous transcripts for evaluation.

General Admission Requirements

A) All international applicants must certify that they have adequate financial resources to pay for all expenses while attending Silicon Valley University.

B) Applicants whose native language is not English must demonstrate their English proficiency by providing an official score report from the Test of English as a Foreign Language (TOEFL®), International English Language Testing System (IELTS™), or the Test of English for International Communication (TOEIC®).

C) Applicants who have earned a degree from an institute where the language of instruction is English, (e.g. U.S., United Kingdom, Australia, Canada and New Zealand) are exempt from submitting a TOEFL®/IELTS™/TOEIC® score. Depending on a case-by-case basis, applicants may be required to have their English proficiency evaluated when they arrive on campus.

English Proficiency

All applicants of Silicon Valley University (SVU) whose native language is not English must demonstrate an established level of English language proficiency through either the TOEFL® (Test of English as a Foreign Language), the academic format of the IELTS™ (International English Language Testing System), or the TOEIC® (Test of English for International Communication).

- The TOEFL® Test - Test of English as a Foreign Language. The TOEFL® test is the most widely accepted English-language test in the world.

- IELTS™ is the International English Language Testing System. It measures ability to communicate in English across all four language skills – listening, reading, writing, and speaking – for people who intend to study or work where English is the language of communication.

- The TOEIC® Test - Test of English for International Communication. The TOEIC® test provides reliable measurement of English proficiency and it is used by hundreds of

companies, government agencies, and English language learning programs.

The test must have been taken within two years of the first trimester of enrollment. The original test scores are required to be submitted to SVU by applicants, either in person or by mail.

The following table explains the TOEFL®, IELTS™, and TOEIC® requirements at SVU. Note that there is no separate essay score on the internet-based TOEFL® as essay scores are included in the writing score. Although the internet-based TOEFL® includes a speaking component, a minimum score on the speaking section is not required.

Degree	Institutional TOEFL®	Internet-based TOEFL®	IELTS™	TOEIC®
Bachelor	500	61	5.5	550
Master	525	71	6.0	680
Doctoral	550	80	6.5	790

Applicants are strongly encouraged to take the test prior to coming to SVU. Those applicants who did not take the TOEFL®, IELTS™, or TOEIC® test, or those who did not pass the proficiency requirements stated above, will be required to take the English Placement Test during the first week at SVU. The students can either take the official TOEFL®, IELTS™, or TOEIC® at certain test centers or the Institutional TOEFL® administered by SVU. Applicants will be on conditional admission until English proficiency is demonstrated.

If an applicant does not qualify for provisional admission as indicated above, the applicant will have to arrange to have an English language evaluation upon arrival and will be recommended, if necessary, any required steps for remediation. This may include passing one or more English classes or retaking the TOEFL®/IELTS™/TOEIC® or equivalent proficiency test. Also note that the applicant has the option to retake the TOEFL®/IELTS™/TOEIC® prior to arriving at SVU and if the new scores exceed the minimum required, the applicant will not have his/her English evaluated upon admission.

Waiving the TOEFL®/IELTS™/TOEIC® Requirements

International applicants who have earned Bachelor's or higher degrees from English-speaking accredited institutions in the United States, Great Britain, Ireland, Australia, or New Zealand do not have to submit TOEFL®/IELTS™/TOEIC® scores.

The TOEFL®/IELTS™/TOEIC® requirement may be waived on a case-by-case basis for students who have earned a degree from a foreign institution where the language of instruction was English. Documentation that the school's language of instruction was English must be provided.

English Placement Test

- Students who do not have a TOEFL® score of 61 for the BBA/BSCS/BSCE degree programs or 71 for the MBA/MSCS/MSCE degree programs or 80 for the DCE degree program; or IELTS™ score of 5.5 for the BBA/BSCS/BSCE degree programs or 6.0 for the MBA/MSCS/MSCE degree programs or 6.5 for the DCE degree programs; or a TOEIC® score of 550 for the BBA/BSCS/BSCE degree programs or 680 for the MBA/MSCS/MSCE degree programs or 790 for the DCE degree program, are required to take an English Placement Test upon arrival to the University.

- A student who achieves a passing score in all skill areas, including Listening & Speaking, Reading & Writing and Conversation & Pronunciation are recommended for regular academic coursework.

- A student scoring below designated cutoff points for Basic, Intermediate, and Advanced level in one or more skill area on the placement test will be required to enroll in ESL courses at the appropriate level. Depending upon a student's placement test score, the student may test out of a particular skill and/or score high in one skill area but low in another, and as a result, it is possible that the student is enrolled in different levels of skill area.

- Students may take the Institutional TOEFL® examination at the end of the academic trimester at SVU. Students who get the minimum score on the examination have the option of not taking ESL courses and will be recommended to take regular degree coursework at SVU.

English as a Second Language (ESL) Program Structure

The program consists of 8 levels and each level has Listening and Speaking, Conversation and Pronunciation, and Reading and Writing:

The course numbers for each level are listed as:

(a) Beginning Level
    (1)ESL100 - ESL104
    (2)ESL150 - ESL154

(b) Low Intermediate Level
    (1)ESL200 - ESL204
    (2)ESL250 - ESL254

(c) High Intermediate Level
    (1)ESL300 - ESL304
    (2)ESL350 - ESL354

(d) Advanced Level
    (1)ESL400 - ESL404
    (2)ESL450 - ESL454

The numbers of hours of instruction per week is as follows:

ESL100 - ESL104: 20 hours per week
ESL150 - ESL154: 20 hours per week
ESL200 - ESL204: 20 hours per week
ESL250 - ESL254: 20 hours per week
ESL300 - ESL304: 20 hours per week
ESL350 - ESL354: 20 hours per week
ESL400 - ESL404: 20 hours per week
ESL450 - ESL454: 20 hours per week

"Successful completion" of each course requires a minimum score of 70% on the exit examination given at the conclusion of each course.

Students who successfully complete the requirements for each course and achieve the minimum passing score on the exit examinations for each course will receive a Certificate of Competency in English. Students who fail to achieve any of the requirements needed to earn the Certificate of Competency will instead receive a certificate indicating the total number of completed hours of instruction received in ESL.

Minor deviations from the above guidelines can be approved by consultations between the ESL instructor(s) and the student advisor.

Instructions for Local/Resident Applicants

A) Submit the completed application form with attached $75 USD application fee and mail to the Admissions Office.

B) Request that one official transcript from each institution attended be sent to the Admissions Office. Applicants should allow those institutions about six weeks to process their request. This material may be sent either separately or with the entire application package. To expedite the application, the admission office recommends that all materials should be sent together.

Instructions for International Applicants

A) Same as the instructions for local/residential applicants (above).

B) In addition to the instructions for local/resident applicants, international applicants must:

    1) Submit a Financial Support Statement to the Admissions Office. Recommendation for admission cannot be certified without this information.

    2) Submit official transcripts of records from all universities attended to the Admissions Office.

    3) Meet the minimum standards of the English proficiency requirement by taking the TOEFL®/IELTS™/TOEIC® exam.

Additional Instructions for Applicants Whose Degree is from a Non-US Institution

Applicants must also provide:

A) Official documentation of all courses taken and grades received (transcripts of records) from each secondary, undergraduate and postgraduate institution attended. Transcripts of records should be issued in English or must be accompanied by notarized English translations.

B) Official certification of degrees and dates awarded, issued in the original language. Academic transcripts of records must have a seal and signature in ink from the institution's authorized official, such as a registrar.

Instructions for Applicants Whose Native Language is not English

Original IELTS™ scores must be submitted by mail or in person to Silicon Valley University. TOEFL®/ TOEIC® scores may be sent directly to Silicon Valley University (TOEFL®/SAT institution code: 3600) or in person. Information and applications for TOEFL®, IELTS™, or TOEIC® tests may be obtained by contacting:

TOEFL®
Educational Testing Service
P.O. Box 6151
Princeton, NJ 08541-6151
Website: www.ets.org/toefl
Email: TOEFL@ets.org

IELTS™ INTERNATIONAL
825 Colorado Boulevard, Suite 112
Los Angeles, CA 90041
Website: www.ielts.org
Email: IELTS@IELTSintl.org

The Certificate of Eligibility for Nonimmigrant Student will be prepared for and issued to the student after the application and all necessary documents have been received and thoroughly reviewed and the Office of Admissions has made a decision to accept the applicant as an SVU student.

TRANSFER STUDENTS

Bachelor's Degree
Transfer students must request that transcripts from accredited institutions of higher learning in which they have previously attended be sent to the Admissions Office for evaluation. The University will accept a maximum of 72 credit hours for the BSCS, BSCE and BBA programs provided the credit hours are in the required areas. All transfer course work requires an overall grade point average of 2.0 on a 4.0 scale from an accredited or approved university or college. Only appropriate courses in which the student has earned grades of "C" or better can be transferred.

Master's Degree
Transfer students must request official transcripts from accredited institutions of higher learning that they have attended in the past to be sent to the Admissions Office for evaluation. SVU will accept a maximum of 9 credit hours that can be integrated into SVU's curriculum. Only course work prior to enrollment in SVU with minimum B- grade from an accredited or approved university or college can be transferred.

General Requirement
Credits earned within the same academic level are transferrable subject to the approval of the Academic Dean.

Credit transfers could only be honored during the first trimester of enrollment.

TUITION AND FEES

SVU makes every effort to keep student costs to a minimum. However, SVU reserves the right to increase or modify any listed fees, and fees are subject to change within one trimester's notice. All SVU fees are subject to change upon approval by the Board of Trustees.

Tuition for Bachelor's and Master's Programs

Undergraduate Tuition	**$ 295** per credit hour
Graduate Tuition	**$ 395** per credit hour

(Master degree program students enrolling in undergraduate preparatory courses which do not count toward the graduate program)
$ 295 per credit hour
(Master degree program students enrolling in 400 level courses which count toward the graduate program)
$ 395 per credit hour

Professional Development Courses	**$ 295** per credit hour
Undergraduate Auditing Fee	**$ 295** per credit hour
Graduate Auditing Fee	**$ 395** per credit hour

English as a Second Language (12 weeks course)
(6 weeks for each session. Total of 2 sessions per trimester)
$ 2,520 flat fee (for taking all 6 classes per trimester)
$ 420 per class
English as a Second Language individualized instruction **$ 60** per hour
(As available, ten hours minimum)

Laboratory Course Fee
Undergraduate Program **$ 295** per credit hour
(Credits earned from the 300 level courses are not counted toward the graduate program)

Graduate Program **$ 395** per credit hour
(Credits earned from the 400 level courses can be counted toward the graduate program)

Any lab credits earned from the undergraduate 400 level courses can be counted toward the graduation requirement.

CPT Fee (equivalent to one course tuition): CPT stands for Curricular Practical Training, an optional work experience course for current students. Credits earned from the CPT internship course cannot be counted toward the graduation requirement.

Summer Registration. It is the obligation of students to make sure that they take all the core and pre-requisite courses which are offered only during the summer trimester. Noted that skip a summer term might cause delays toward graduation.

Tuition for Doctoral Program

Application for Doctoral Admission
International Applicant	**$ 75**
Domestic Applicant	**$ 75**
Continuing Student Applicant	**$ 50**
Doctoral Tuition (Per credit hour)	**$ 450**
Doctoral Written Comprehensive Exam	**$ 450**
Doctoral Written Qualifying Exam	**$ 450**

Laboratory Course Fee

$395 per credit hour

Tuition for courses taken to fulfill the graduation requirements for the DCE program is **$395** per credit hour for the first 36 credit hours and **$450** per credit hour for the remaining 72 credit hours which normally will be the student's research and advanced concentration area.

Estimated Fees

Room/Board/Personal Living Expenses:
(Approx. **$1000**/month)	**$**	**8,000** or more Per year
Textbooks	**$**	**350** or more Per trimester
Health Insurance	**$**	**235** or more Per trimester

Other Fees and Expenses

Registration Fee (Non-Refundable)	**$ 75** per trimester
Learning Resource Fee (Non-Refundable)	**$ 200** per trimester
Student Association Fee (Non-Refundable)	**$ 50** per trimester
Application fee	**$ 75**
Installment Fee (Non-refundable)	**$ 50**
English Placement Examination Fee	**$ 50**
Late Registration	**$ 75**
Institutional TOEFL® Exam Fee	**$ 50**
Regular Document Processing Fee	**$ 10-25**
Express Processing Fee	**$ 25**
Changing Major Fee	**$ 50**
Non-Registered Student In-Out Fee	**$ 325**

Official Transcript Request
Pick Up/ Domestic Mail	**$ 10**
(Each additional copy is $10 extra.)	
Priority Mail	**$ 35**
(Each additional copy is $10 extra.)	
International Mail	**$ 60**
(Each additional copy is $10 extra.)	
(Mailing costs may be higher depending on destinations.)	

An additional **$25** will be charged for any Rush Processing or Express Delivery
Late Payment Fee	**$ 100**
Course Add or Drop Fee (Per course)	**$ 25**
Late Course Add or Drop Fee (Per course)	**$ 50**
Graduation Fee	**$ 275**
Student ID Card Replacement	**$ 25**
Card Transaction Fee	
	2.75% of charged amount
Returned Check Fee (Depending on bank fees)	
	$ 35 or more
Remittance in/out each time	**$ 50**
Deferred Payment	**$ 50**

Accepted Payments

Cash, Cashier Check, Money Order, Demand Draft, VISA, Master Card, and Debit Card are accepted. (NO PERSONAL CHECKS)

CANCELLATION AND REFUND POLICIES

For detailed cancellation and refund policies, please refer to the student enrollment agreement. The following statement summarizes the policies:

Buyer's Right to Cancel

You have the right to cancel the enrollment agreement and obtain a refund. If the notice of cancellation is made prior to, or on, the first day of instruction, the institution shall issue a 100% refund less a reasonable deposit. Application fee is NON-REFUNDABLE.

Cancellation shall occur when you submit a written notice of cancellation to the university by mail, bank delivery, or telegram. The written notice of cancellation, if sent by mail, is effective when deposited in the mail properly addressed with prepaid postage

The written notice of cancellation need not take any particular form and, however expressed, is effective if it shows that you are no longer bound by the enrollment agreement.

Refund Information: You may withdraw from a course after instruction has started and receive a pro-rata refund for the unused portion of the tuition and other refundable charges if you have completed 60% or less of the instruction.

The refund will be a pro-rata refund as shown in the following refund schedule. If the student has completed more than 50% of the program, no tuition will be refunded.

Refund Schedule

Week of the Trimester	% of refund
1	100%
2	93%
3	87%
4	80%
5	73%
6	67%
7	60%
8	0%
:	0%
15	0%

Student Tuition Recovery Fund

The Student Tuition Recovery Fund (STRF) was established by the Legislature to protect California residents who attend a private post-secondary institution from losing money if they prepaid tuition and suffered a financial loss as a result of the school closing, failure to live up to its enrollment agreement, or refusing to pay a court judgment.

To be eligible for STRF, you must be a "California resident" and reside in California at the time the enrollment agreement is signed or when you receive lessons at a California mailing address from an approved institution offering correspondence courses. Students who are temporarily residing in California for the sole purpose of pursuing an education, specifically those who hold student visas, are not considered "California residents."

To qualify for STRF reimbursement you must file a STRF application within one year of receiving notice from the Council that the school is closed. If you do not receive notice from the Council, you have 4 years from the date of closure to file a STRF application. If a judgment is obtained you must file a STRF application within two years of the final judgment.

It is important that you keep copies of the enrollment agreement, financial aid papers, receipts or any other information that documents the monies paid to the school. Questions regarding STRF can be directed to:

Bureau for Private Postsecondary Education
P.O. Box 980818
West Sacramento, CA 95798-0818
(916) 574-7720
Web site: http://www.bppe.ca.gov
E-mail: bppe@dca.ca.gov

ACADEMIC POLICIES AND REGULATIONS

Registration

Students are required to register on the registration day specified in the University calendar. Failure to register on that day may result in loss of space in that class. Full tuition fees and all prior debts must be paid in full on or before registration day of each academic year. Matriculation is subject to the satisfactory completion of all academic requirements and the receipt of a final transcript from all undergraduate universities attended.

Health Insurance

A health-insurance plan is mandatory for all international students. All international students must carry a valid health insurance plan while enrolled at SVU. Evidence of such a plan must be provided to SVU before successfully completing enrollment.

Students' Academic Advising

Students will be assigned a faculty advisor upon matriculation. Faculty advising should be considered a privilege of the academic process. This is a valuable opportunity to develop and sustain individual contacts between faculty and students on both academic and personal levels. It is the student's responsibility to meet with his/her faculty advisor at least once a trimester. If either the student or faculty member does not find the relationship helpful, either is free to seek a change. This request should be made to the Academic Dean.

Professional Behavior and Demeanor

Students enrolled at SVU must demonstrate professionalism while studying at school and in their real world career. Students are expected to hold themselves to high standards of ethical conduct while they attend SVU. In particular, plagiarism and cheating are not accepted under any circumstances. For more details, please consult the Student Handbook.

GRADING POLICY

General

The courses are designed to measure the students' progress by written and practical examinations. Specified objectives have been defined for each course to help the students and faculty members evaluate the degree of progress.

Evaluation Methods

Overall student performance is evaluated differently in each class using one or a combination of the following methods:

(a) Written examinations based on analytical or logic inference questions, multiple choice questions, short answer questions, and essay questions.

(b) Practical or laboratory examinations including: classroom observation of laboratory projects, independent hands-on design projects, and presentation/discussion of projects.

(c) Written reports or research papers on assigned topics.

Review of Examinations

Examinations are graded by the faculty and are usually returned to students within seven days. Examinations are kept on file for student review for one year.

Grade Reports

In cases when final grades are not available at grade reporting time, a grade of "I" is submitted to the Registrar in lieu of the course grade. "I" grades entered on the grade reports must be converted to student-achieved grades by the student completing the necessary requirements within two trimesters or it will be converted to an F. An up-to-date summary of student performance is maintained in the Program Office and is available to students for review.

Final course grades are given based on the four-point letter system, as follows:

Letter Grade	Grade Points
A+	4.3
A	4.0
A-	3.7
B+	3.3
B	3.0
B-	2.7
C+	2.3
C	2.0
C-	1.7
D+	1.3
D	1.0
D-	0.7
F	0.0
U	0.0

Explanation of Grading Marks:

A: Highest level, showing excellence

B: Performance is good, but not the highest level

C: Performance is adequate

D: Performance is less than adequate

F: Course requirements have not been met

WF: Withdrawal with Fail

I: Incomplete - Performance has been incomplete due to circumstances beyond the student's control. Work was passing at the time.

W: Withdrawal - Student was permitted to drop the course.

AU: Audit - Student was enrolled on a non-credit basis

CR: Credit by examination - Credit = grade "C" or better

TR: Transfer credit

NC: No Credit - Below passing on challenge examination

P: Pass - Student passed the course which was offered on a pass/no-pass basis

NP: No pass - Performance is unsatisfactory of the course which was offered on a Pass/No pass basis.

IP: In progress - Performance is satisfactory, but a final grade is not yet assigned. This applies to work normally exceeding beyond one trimester

U: Unauthorized incomplete - The student did not withdraw from the course but failed to complete course requirements. For purposes of a grade point average, this symbol is equivalent to an "F"

RD: Report delayed - Indicates a grade has not yet been turned in by the instructor.

RP: Course is repeated

Dean's Honors

Excellence in scholastic achievement is recognized each trimester by the compilation of a Dean's List. An **undergraduate student** successfully completing at least **12 credit hours** with grade points, with a minimum term grade point average of **3.35** or better; a **graduate student** successfully completing at least 9 credit hours with grade points, with a minimum term grade point average of **3.85** or better, qualify for the Dean's Honor List. "Dean's Honor List" will also appear on the transcripts of students obtaining a 4.0 grade point average.

Incomplete Grade

In circumstances where a student is unable to complete the coursework required prior to the end of the trimester, the student may, with the instructor's approval, file a petition to receive a grade of

Incomplete. Incomplete grades will be indicated by a mark of "I" on the student's grade report and transcript until the student either successfully completes the course requirements (at which time the "I" will be changed to a letter grade) or fails to complete the course requirements (at which time the "I" will be changed to an "F").

Students have two trimesters, following the trimester for which an incomplete is given, to successfully complete any deficient coursework. The trimester extends to the last day of scheduled final examinations. Failure to complete all work within this time period will result in the student receiving a failing grade for the course.

Auditing Courses

Students who wish to take courses without formally enrolling in a degree program may do on an audit basis. Students who wish to audit courses must:

A) File an Application for Admission and pay the admission fee (if not currently enrolled);
B) Demonstrate proficiency in English;
C) Pay applicable tuition; and
D) Meet attendance and other requirements as specified by the instructor.

A course which is audited will be indicated by an "AU" on the student's transcript.

Standards of Satisfactory Progress

All students must maintain satisfactory progress. A student is making satisfactory progress if:

A) Every trimester the student earns a GPA of 2.0 or above for undergraduate students, or 3.0 or above for graduate students.
B) After attempting 25% of the maximum program length, the student's percentage of course completion is above 55%, and cumulative GPA is above 1.5 for undergraduate students and 2.5 for graduate students.
C) After attempting 50% of the maximum program length, the student's percentage of completion is above 60%, and cumulative GPA is above 1.75 for undergraduate students and 2.75 for graduate students.
D) For programs of more than two academic years, at the end of the second academic year and at the end of each subsequent year, the student must have a cumulative GPA of 2.0 or above.

Maximum program length is determined for each student at admission. Maximum program length is equal to the number of credit hours required for the student to complete the program times 1.5.

Students who completed a program or degree at Silicon Valley University and plan to obtain a second or higher degree at SVU will be treated with new admission status. A new student ID will be issued and the student will have to submit all the required credentials and documents (e.g. all official transcripts previously obtained, diploma copy, etc.; for more information please refer to General Admission on page 3) in order to be accepted in the program.

Changing Programs

Students can change their declared academic program of study at any time. To make a program change, the student should complete the change major/program form at the Registrar's office. The student should meet with intended Program Director for an interview and discussion of qualifications and goals. The student's credentials will be assessed to determine the proper classes for the new degree requirements. The specific requirements for changing the major depend on the number of credit hours the student has completed and the requirements of the intended major. Transfer credits approved for the prior degree program will be reassessed to determine the eligibility of transfer to the new degree program.

ACADEMIC PROGRESS

A student's progress through the program is based on successful completion of expected competencies.

The faculty determines if the student has demonstrated the knowledge, skills, and approach necessary to be eligible to progress to the next phase. In special instances, the faculty may convene outside of class time to consider cases relating to unusual circumstances, such as probationary or dismissal cases.

LEAVE OF ABSENCE

A student in good academic standing may request a leave of absence with the occurrence of a medical problem, serious personal problems or pregnancy.

Students requesting a leave of absence must apply in writing to the Academic Dean. In the event of a medical problem, a letter from a physician describing the condition for which the leave is requested and the estimated length of time needed for recovery must accompany the request.

After consultation with the student, the Academic Dean will decide whether or not the leave is to be granted and the conditions under which the student may return to school. A student requesting a leave of absence during, or at the end of, the academic year must complete the following:

A) Written request for a leave of absence;
B) A leave of absence form from the Registrar. After completing the student's portion, take the form to the faculty advisor who will consult with the student, sign the form, and write a conference report for the Academic Dean's use in considering the approval for leave;
C) A personal meeting with the Academic Dean to discuss the reason for the leave; and
D) Official exit interview with the Academic Dean, the Program Administrator, and Registrar.

When all of the above have signed the form, the Registrar will again sign the form and date it, indicating final approval. At this time, the Academic Dean or designee will send an official letter to the student indicating that the leave of absence has been approved and specifying the terms of the leave.

If the leave of absence is approved, the official date of the leave of absence will be the original date of receipt of the student's request and any tuition charged will be in accordance with the institution's refund policy.
Leave of absence requested for a full academic year may be for one year only with expected reinstatement scheduled at registration for the following year. Leave of absence requested after registration for any given academic year may be granted for a period not to exceed the number of months remaining until the registration date for the next academic year.

It is the student's responsibility to keep the Registrar informed of any change of address while on a leave of absence.

WITHDRAWAL

Application for voluntary withdrawal from the university must be made in writing to the Academic Dean. Except in special cases, the application will be accompanied by a personal interview. Every effort should be made to assure that no misunderstanding or errors occur in the withdrawal process. Students, who leave the University without notifying the Office of the Registrar and not completing the withdrawal procedures within 30 days, will automatically be dismissed from the university. In addition, students must report to the registrar's office to sign a withdrawal form before they can officially withdraw from the university. Students who do not complete this procedure, "voluntary withdrawal" will not be considered for readmission at a later date.

Readmission for students withdrawing in good standing is not assured unless it is part of the final agreement made between the Academic Dean and the withdrawing student. This final agreement must be in writing so that it is clear to all parties involved. Students who have not withdrawn in good standing

may request readmission through the university's admissions application process. The Admissions Committee will evaluate the student's entire academic record and make a recommendation to the Academic Dean.

ACADEMIC WARNING

The instructor of the course where a student demonstrates unacceptable performance must notify the student of such performance as soon as it becomes evident. The student will be notified that continued poor academic performance can lead to academic probation and dismissal.

Students who do not meet the Standards of Academic Performance will be placed on probation. The duration and conditions of the probationary period will be determined on an individual basis by the Academic Review Committee. The Committee may recommend remedial study and/or repetition of a unit of study.

Students will be placed on academic probation as a result of "D" or "U" work in any unit of study.

ACADEMIC PROBATION

Probation is defined as a period of time specified by the Academic Dean during which the student's progress will be closely monitored by the Academic Review Committee and the Program Administrator. A student will be placed on probation for any of the following reasons:

A) Immediately upon receiving a grade of "D" in any course;
B) A grade point average of less than the required grade at the end of any trimester; and/or
C) Seriously deficient ethical, professional or personal conduct.

Members of the faculty or administration will render a special report in writing to the Academic Review Committee regarding any student whose professional or personal conduct is deemed unsatisfactory. Professional and personal conduct includes attendance, cooperation with instructors, interest shown in assigned work, attitude toward fellow students and associates, as well as personal appearance appropriate to the circumstances.
The terms of probation for ethical, professional, or personal conduct will be specified at the time the student is placed on probation.

When a student is placed on probation, he/she will be notified in writing by the Academic Dean and the reasons will be stated. Notification must be by Certified mail or hand-delivered and acknowledged by signatures of the student and the Academic Dean (or

his designee) and copies of the letter will be placed in the student's file and distributed to the Chairman of the Academic Review Committee and the student's Faculty Advisor. The Academic Review Committee will ascertain when the terms of the probation have been satisfied and recommend to the Academic Dean that probation can be rescinded.

The student will remain on probation until the following minimal acceptable standards are met:

A) A student will be removed from probation after one trimester provided he or she has regained a required annual grade point average;

B) A student will be removed from probation when all unsatisfactory grades have been satisfactorily remedied according to the following Remediation Section; and/or

C) A student will be removed from probation when the specified terms of probation for ethical, professional, or personal conduct are met.

DISMISSAL

A student may be subject to dismissal from the program for substandard academic or professional performance, as follows:

A) A final grade of "F" in any course;

B) Any event that could result in either academic or professional probation for a student currently on academic or professional probation;

C) Violation of the terms of probation;

D) Repeated tardiness at program-scheduled activities and in meeting deadlines set by the faculty in regards to tests and/or assignments; and/or

E) Failing to complete the required procedures for either Voluntary Withdrawal or Leave of Absence from the university.

EDUCATIONAL RECORDS

The Family Educational Rights Act grants students significant rights of access to their records. This Act also protects the privacy of the student records and requires the University to inform students of all their rights and safeguards. The following explains the various sections of the Act.

Students may gain access to any written records directly concerning them by asking the official (the Registrar) holding the records. Where a record contains information on more than one student, students requesting inspection must be informed about the information pertaining to them. The student does not have the right to inspect personally such records, as this would violate the privacy of another student.

There are some records to which the student has no access. These are: (1) financial records of parents; (2) confidential letters and recommendations written prior to January 1, 1975; (3) confidential letters and recommendations for which a waiver of rights to access has been assigned, provided the student is given the names of those writing letters (there are three areas in which a waiver may be signed - admissions, employment, and honors); and (4) doctors' and psychiatrists' records - which, however, may be reviewed by the students' own physicians.

Students have the right to the interpretation and explanation of all records subject to review. Furthermore, the subject matter of the files can be challenged directly with the official holding them. If students are not satisfied with the explanation or reach an impasse with the record holder, they have the right to appeal the case to the Academic Dean, who has been designated as the hearing officer.

In addition, students have the right to copies of their records. The student may, however, be charged for this service, but the amount cannot exceed the actual cost of producing them.

The Act also entitles students to the privacy of their records. Only material classified as "directory" information can be released without student consent. Directory information, as defined by SVU, includes the student's name, address, telephone number, school of enrollment, periods of enrollment, degree awarded and honors, field of study, and date or place of birth. (With reasonable notice, students can have any or all of the information withheld)

However, the Act does allow persons serving in official capacities to have access to student records. These include: (1) University officials who have a legitimate interest, i.e., those performing their official duties; (2) officials of other universities in which the student seeks enrollment, provided the student is given notice and the opportunity to review the records sought; (3) Government officials acting in their legitimate functions; (4) those persons needing them in connection with a student's application for, or receipt of, financial aid; (5) organizations conducting surveys, provided that the information will not reveal the students name, and when the information is no longer necessary it will be destroyed; (6) accrediting organizations; and (7) those persons named in a judicial order.

Students may consent to have others review their files. To protect students, a record will be kept of those granted access, other than SVU officials. Such records will be maintained for each file reviewed.

The university will maintain student transcripts for a minimum of fifty years either from the date of the student's graduation or from the last date of the last trimester in which the student was officially enrolled.

STUDENT SERVICES

The university seeks to enrich the quality of student life by providing a variety of academic and non-academic counseling, referral, professional development, recreational and social opportunities through the Office of Student Affairs.

Academic Counseling

For students who want additional instruction, the Office of Student Affairs has established "Students Learning Center," which can help in-need students arrange either private or small group tutorial sessions.

The Students Learning Center offers a more informal counseling. It is to help students to do well on their class work. At the same time, it was also designed to help students identify and pursue their career goals, providing advice and suggestions on non-classroom aspects of the academic process including realistic career recognition and selection, time and workload management, stress reduction and strategies for dealing with academic fatigue or burnout.

Non-Academic Counseling and Referrals

Recognizing that life in general, and academic life in particular, is fraught with complexity and confusion, the Office of Student Affairs provides a wide array of counseling and referral services designed to assist students with their non-academic concerns, including conflict resolution, as well as referrals to housing services, health services and legal services.

Professional Development

To assist students in locating and securing employment opportunities, the Office of Student Affairs offers several workshops designed to cultivate students' professional development, including, resume reviewing, interview coaching, and an employment bulletin service.

Recreational and Social Opportunities

The university seeks to foster a sense of community among the members of the university by encouraging social interactions and experiences. The university primarily pursues this goal through two university-sponsored organizations: The Student Association and the Alumni Association.

Student Association

The Student Association seeks to encourage the development of university community by organizing and providing recreational and social opportunities designed to unite students by introducing them socially to one another and to enrich their academic experience by providing access to local cultural and recreational venues.

Housing

The university currently provides no housing for students. The university, through the Office of Student Affairs, can assist students in locating suitable housing in the area. The university, however, is not responsible for ultimately locating or providing housing for its students.

Housing near the university is not difficult to find. However, rents for one bedroom apartments in the vicinity of the university currently average about $1,500 per month. Some of our students have found housing by renting rooms in private residences. Rooms typically range from $450 to $700 per month, and usually include full privileges for the kitchen, laundry, living room and other common areas of the residence. The Office of Student Affairs can provide assistance to students interested in exploring this option for securing housing.

Student Financial Assistance

There are limited numbers of Office Assistant, Teaching Assistant/Grader, Tutors, and Library Assistant position available to qualified graduate level students. Selection will be based on academic achievements, course requirements, and prior experiences, as well as the school's current budget availability during each trimester.

UNIVERSITY POLICY ON ACADEMIC FREEDOM

Silicon Valley University is dedicated to the pursuit of truth and acquisition of knowledge through the unfettered opportunity to engage in research and intellectual exchange. Consequently, the university considers the following academic freedoms endemic to the fulfillment of its mission:

A) The right to engage in scholarship and to form academic opinions;
B) The right to equal treatment under university policies and to equal access to university resources;
C) The right of access to course and degree requirements and expectations;

D) The right to objective analysis based solely on the quality of academic performance;

E) The right to an academic environment free of harassment and/or intimidation; and

F) The right to engage in free expression, subject only to reasonable regulation concerning time, place and manner.

UNIVERSITY STATEMENT ON STUDENTS' RIGHTS

The university considers the following rights to be inherent to the pursuit of academic excellence and intellectual enterprise. Consequently, the university endeavors to uphold and honor the following on behalf of its students:

A) The right to academic freedom;

B) The right to administrative integrity;

C) The right to an environment conducive to intellectual pursuit;

D) The right to equal access to university facilities and equal treatment under university policies;

E) The right to petition for redress of grievances against other individuals or the university; and

F) The right to privacy and confidentiality of personal and academic records as provided by law.

UNIVERSITY STATEMENT ON STUDENTS' OBLIGATIONS

The university considers the following standards of conduct to be inherent in its mission of providing an environment of academic excellence and free academic exchange. Students violating these standards are acting in contravention to their basic obligation to maintain and uphold the university's fundamental mission and may therefore be subject to official sanction.

At all times, students are under the obligation to uphold and maintain:

The Principle of Academic Integrity

All students are expected and required to comport themselves with the highest respect for the principle of academic honesty concerning all information provided to the university and in all academic performance undertaken while subject to the university's oversight. At a minimum, demonstrated respect for the principle of integrity requires the student at all times to:

A) Act with complete candor in furnishing the university with required information; and

B) Act with complete honesty while engaged in intellectual inquiry, refraining at all times from the commission of plagiarism, fraud, bribery or

sabotage upon the university or upon any member or representative of the university community.

The Principle of Academic Community

All students are expected to act at all times with the deepest respect for the larger academic community of which he or she is a member. At a minimum, demonstrated respect for the principle of academic community requires that the student refrain at all times from engaging in:

A) Harassment of students or other members of the university community;

B) Hazing, belittlement, oppression or intimidation of students or other members of the university community;

C) Misuse, destruction, sabotage or improper conversion of university property or the personal property or work product of others;

D) Possession on campus of firearms, dangerous chemicals, explosives or other dangerous or proscribed substances or articles;

E) Objectionable behavior, including the failure to adhere to official or reasonable requests made by authorized members of the university community or the disruption or impairment of university functions or programs or other students' rights to an intellectual environment conducive to academic performance; and

F) Criminal conduct which affects the university or adversely affects the participation or suitability of the student as a continuing member of the university community.

The Principle of Academic Effort

All students are expected to act with respect for themselves and for the academic pursuits in which they are engaged. At a minimum, demonstrated respect for the principle of academic effort requires that the student:

A) Maintain at all times the minimum grade point average (GPA) required for successful performance in the student's particular field of study; and

B) Maintain at all times the minimum attendance requirement and all applicable deadlines for all courses and projects in the student's particular field of study.

Change of Grade

A change of grade may be made only in the case of a declared clerical or other administrative error, except as indicated below. The definition of a clerical error is an error made by the instructor or by an assistant in calculating or recording the grade.

An appeal with the Grade Examination Application Form for a change of grade must be initiated by the student and must first be approved by the instructor and the Academic Dean. The instructor must also submit the Grade Change Form to be approved by the Academic Dean before it can be accepted by the Registrar's Office. An appeal for a change of grade must be initiated as soon as possible, within two trimesters following the trimester that the incorrect grade was assigned, in order to insure that proper documentation is available.

NON-DISCRIMINATION POLICY

Silicon Valley University is an equal opportunity institution of higher learning that does not discriminate on the basis of race, color, religion, national origin, age, sex, sexual orientation, disability or handicap, disabled veteran's, or Vietnam era veteran's status. This policy applies to all employment practices, admission of students, educational programs and activities.

UNIVERSITY POLICY ON SEXUAL AND DISCRIMINATORY HARASSMENT

Silicon Valley University is committed to the fostering of an atmosphere of uncompromising academic excellence and unfettered academic inquiry. Subversion of these standards through the harassment of students is in contradiction to the university's fundamental mission and such harassment is therefore absolutely prohibited.

Sexual Assault

Assault is defined as the unprivileged, non-consensual touching of another person in any manner which would prove offensive to a reasonable person. Students and university personnel are strongly encouraged to immediately report any instances of assault to both university administration and appropriate law enforcement agencies.

Sexual Harassment

Sexual harassment is defined as unwelcome sexual advances, requests for sexual favors and other verbal, nonverbal or physical conduct of a sexual nature directed at any member of the campus community by any other member of the community, whether student, faculty, administrator or other university employee, resulting in unreasonable interference with an individual's enjoyment of the university environment and/or with the performance of his or her academic or employment duties.

Any harassment, threat or offer by any employee of the university to condition any aspect of a student's academic performance, reputation or standing upon the provision of sexual favors is prohibited.

Any other harassment of any member of the campus community resulting in the creation of an offensive, intimidating or hostile environment is similarly prohibited.

Discrimination

Discriminatory harassment is defined as intimidation through the use of personal vilification and/or physical violence based upon an individual's race, gender, creed, religion, disability, national or ethnic origin, marital status or sexual orientation. Speech or other conduct constitutes personal vilification if it is: A) intended to intimidate or stigmatize a specific individual or group of individuals on the basis of any of the preceding categories; B) is addressed directly to the individuals whom it insults or stigmatizes; and C) makes use of "fighting" words or nonverbal symbols. Fighting words or nonverbal symbols are those which are inherently provocative and inflammatory such that they inflict injury by their very expression or tend to incite an immediate breach of peace.

Students with questions regarding the university's policies on sexual or discriminatory harassment or with any complaints concerning possible instances of sexual or discriminatory harassment should contact the appropriate university administrator.

GRIEVANCE PROCEDURE FOR STUDENTS

Disciplinary Action

Investigations into allegations of misconduct or other violations of official university policy are subject to a judicial hearing presided over by a judicial board or a judicial officer as appointed by the university president. Allegations of misconduct which are deemed to be supported by a preponderance of the evidence presented during the hearing may result in the imposition of judicial sanction. Allegations of misconduct which are violations of local, state or federal statute may also result in formal criminal or civil proceedings.

Judicial Hearings

Upon the credible presentation of an allegation of misconduct, the president of the university will appoint, according to his or her discretion and the dictates of fairness and justice, a judicial officer or a judicial panel consisting of disinterested members of the university community possessed of the wisdom and temperament necessary for conducting a fair hearing and rendering a fair decision.   Upon appointment, the judicial officer or panel will convene

a judicial hearing to examine the circumstances surrounding any of the following situations:

A) Allegations of student misconduct;
B) Allegations of administrative misconduct;
C) Allegations of faculty misconduct;
D) Allegations of student-student harassment;
E) Allegations of sexual or discriminatory harassment;
F) Allegations of observed misconduct (third-party accuser).

Upon the convention of a hearing, the student or other party accused of misconduct shall possess, subject to the dictates of all relevant law and the dictates of fairness and justice, the following rights:

A) The right to be present during the hearing;
B) The right to confront accuser and witnesses;
C) The right to examine and challenge evidence;
D) The right to appoint an advocate to argue on one's behalf; and
E) The right to present evidence and call witnesses on one's own behalf.

At the conclusion of the hearing, the judicial officer or panel will rule whether a preponderance of the evidence presented during the hearing supports the allegation of misconduct. If the evidence fails to support the allegation, the party accused of misconduct is exonerated and will not be subject to further sanctions. No record of the accusation shall be placed in the student or personnel file of the accused party. If the evidence is deemed sufficient to support the allegation, the judicial officer or panel shall choose an appropriate sanction as determined by the nature and seriousness of the offense.

Should the student or other party accused of misconduct object to:

A) The judicial officer or the composition of the judicial panel;
B) The preservation of his or her rights during the hearing; or
C) The fairness of the final judgment

A petition of appeal specifically detailing the appellant's objections may be made directly to the president of the university, who shall approve or deny the petition based on the substance of the allegations. Should the petition be approved, the president may order a reconstitution of the judicial panel or a rehearing, as required by the dictates of justice and fairness.

If a student is dissatisfied with the treatment under the university's judicial system, a complaint can be made to the following organizations:

Bureau for Private Postsecondary Education (BPPE):
Mailing Address:
P.O. Box 980818
West Sacramento, CA 95798-0818
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Accrediting Council for Independent Colleges and Schools (ACICS):
750 First Street, NE, Suite 980
Washington, DC 20002-4241
(202) 336-6780

Judicial Sanction

Upon the determination that an allegation of student misconduct is supported by a preponderance of submitted evidence, the judicial board or judicial officer may sanction the offending student in a manner consistent with the seriousness of the offense and consonant with the range of judicial sanctions permitted by the university:

A) Disciplinary probation. No permanent record of the misconduct will be placed in the student file. However, a repeated violation may result in imposition of more serious sanctions.
B) Written reprimand. A written account of the incident to be placed in the student's file and made available to others consistent with applicable law. The student thereafter is ineligible to hold office or other leadership positions in campus organizations.
C) Educational sanction. The student is required to undertake a specified program or course of study within a determined time frame. Failure to successfully complete the program may result in the imposition of more serious sanctions.
D) Loss of privileges. Restriction or prohibition on use of or access to selected university facilities or resources.
E) Restitution. Repayment of monetary damages incurred by the university as a result of misconduct, or requirement of equivalent compensatory service to either the university or a university-designated community organization.
F) Interim suspension. The student placed on interim suspension will be required, as a matter of public safety or for the good of the academic community, to leave the university pending the final judgment of a judicial hearing.

G) Academic probation. The student placed on probation must meet specified academic requirement(s) within a determined time frame to maintain continued eligibility for and participation in university programs.

H) Academic suspension. The student placed on suspension will be required to leave the university for a determined period of time, after which application for readmission may be made.

I) Academic expulsion. The student placed under expulsion will be required to permanently leave the university and may not, except under exceptional circumstances to be determined by the president or his or her designees, apply for readmission.

J) Criminal or civil complaint. Misconduct of a particularly egregious nature may result in the university seeking formal legal redress under applicable law within the court of law relevant to the offense.

GRADUATION REQUIREMENTS

General University Requirements

Students seeking a degree from Silicon Valley University must complete specific requirements as determined by the faculty, the Board of Trustees and the State of California.

The requirements for graduation include all of the following:

A) Completion of minimum number of credit hours;
B) Meet the minimum graduation GPA requirement;
C) Faculty approval;
D) Filing of petition for graduation; and
E) Administrative clearance.

Bulletin Requirements

A student's graduation requirements are dictated by the terms of the catalog applicable to the trimester in which the student enrolls in the university as a degree seeking student. Students exit the university for a full trimester or longer are subject to the terms of the catalog in effect at the time of reentry. Students may change the terms of their graduation requirements according to the catalog currently in effect by filing a petition and paying a fee. Should courses required for graduation at the time of a student's entry be discontinued, the university will designate courses to serve as effective substitutions.

Minimum Number of Credit Hours

Students must complete an appropriate number and distribution of credit hours to earn a degree.

- Bachelor of Science in Computer Science
  (BSCS) 128 credit hours
- Bachelor of Science in Computer Engineering
  (BSCE) 128 credit hours
- Bachelor of Business Administration
  (BBA) 128 credit hours
- Master of Science in Computer Science
  (MSCS) 36 credit hours
- Master of Science in Computer Engineering
  (MSCE) 36 credit hours
- Master of Business Administration
  (MBA) 36 credit hours

Certificate Programs

Computer Network and Telecommunications Engineering   525 hours
Database Design and Software Engineering
                                      525 hours
English as a Second Language   270 hours

Checklist of Requirements

A) Successful completion of all coursework listed in the study plan.
B) GPA (Grade Point Average) of 2.00 or above for undergraduate students, and 3.00 or above for graduate students
C) All tuition and fees must be paid
D) Application for graduation and graduation fees are paid
E) Satisfactory completion on English Proficiency

Faculty Approval

To graduate, students must demonstrate that they have conducted themselves in a professional and ethical manner according to the standards of student conduct throughout their course of study at the university. Students subject to unresolved allegations or pending discipline concerning breaches of student obligation or university policy may be denied approval for graduation until such time as pending allegations or disciplinary actions against the student are resolved.

Petition to Graduate

Upon registering for the final trimester of study, or at any time within the trimester proceeding the last trimester, a student intending to graduate upon the completion of that trimester must file a petition for graduation with the registrar and pay the required graduation fee. Upon receipt of the petition, the Registrar will prepare a deficiency declaration outlining any remaining courses and other obligations needed to successfully accomplish the student's program of study. It is important that the student successfully addresses any deficiencies before the end

of the last trimester. The petition will be either approved or disapproved depending on the student's success in resolving any deficiencies in the last trimester.

Estimated deadlines for filing the application are:

Fall Trimester	November	1
Spring Trimester	March	1
Summer Trimester	July	1

A fee of $275 is required. Please also check SVU website and/or announcement boards for changes in the deadlines.

Administrative Clearance

To obtain approval to graduate, a student must clear any outstanding debts owed to the university. Failure to do so will result in the denial of a student's petition to graduate for as long as a balance owed the university remains outstanding.

Definitions

BA: Business Administration
CE: Computer Engineering
COMM: Communication
CS: Computer Science
ECON: Economics
EN: Environmental Studies/ Environmental Science
ENGL: English
ESL: English as a Second Language
MATH: Mathematics
PHYS: Physics
POLS: Political Science
PSYCH: Psychology

Lower Division: Undergraduate classes of 100 and 200 series.
Upper Division: Undergraduate classes of 300 and 400 series.
Upper Division Standing: Student has completed the minimum requirements in lower division courses.
Graduate Division: Graduate level classes of 500 and 600 series.
Graduate Standing: Student has been admitted to graduate program

Upper division course number which follows with an M: Master degree program students enrolled in undergraduate upper division course.

Upper division course number which follows with an M-L: Master degree program students enrolled in undergraduate upper division laboratory course.

UNDERGRADUATE PROGRAMS

SVU offers several general education classes. However, students may have to take general education and lower division courses at other accredited schools; e.g., community colleges before applying for an undergraduate degree program. General Education and lower division classes that are not offered at SVU must be taken at other accredited schools in order to meet the program requirements.

Bachelor of Science in Computer Science (BSCS)

Program objectives: This program is designed to prepare students for a variety of careers in the Computer Science field by providing a solid foundation of theoretical background and practical experience in the different fields currently available. Students will master the fundamental knowledge of computer architectures, computer algorithms, computing theory, database, operating systems, computer programming languages, communication and networks.

Required credits: The BSCS program requires coursework in the following areas with a minimum of 128 credits in total:

- Lower Division   75 credits
  - General Education   63 credits
  - Computer Science Basics   12 credits
- Upper Division   53 credits
  - Computer Science Core   39 credits
  - Electives   14 credits

Lower-Division Curriculum (Minimum 75 credit hours)

A minimum of 75 lower division credit hours is required, with a minimum of 63 credit hours in General Education courses and 12 credit hours in Computer Science basics:

General Education (Minimum 63 credit hours)

Area A
Basic Subjects   9 credits
As a requirement of Area A, each student must complete:

ENGL100	English Composition
COMM120	Fundamentals of Intercultural Communications
ENGL200	Critical Thinking

Area B
Mathematics & Science Core   45 credits
As a requirement of Area B, each student must complete:
I. Mathematics   18 credits

MATH200	Calculus I
MATH202	Calculus II
MATH204	Calculus III
MATH206	Discrete Mathematics
MATH210	Introduction to Probability Theory
MATH212	Introduction to Statistical Methods

II. Natural Science   12 credits

EN200	Energy and Environment
PHYS200	College Physics I
PHYS202	College Physics II
EN220	Introduction to Environmental Science

III. Social Science   15 credits

ECON100	Principles of Economics: Macroeconomics
POLS100	U.S. History
PSYCH100	General Psychology
POLS150	American Government
ECON200	Principles of Economics: Microeconomics

Area C
Humanities and Communication   9 credits
As a requirement of Area C, each student must complete:

ENGL220	Technical Writing
ENGL230	Professional Communication I
ENGL232	Professional Communication II

Computer Science Basics (Minimum 12 credit hours)

CS200	Introduction to Computer Science	3 credits
CS200L	Computer Science Introduction Lab	1 credit
CS206	Introduction to UNIX/Linux	3 credits
CS206L	UNIX/Linux Introduction Lab	1 credit
CS230	Programming in C++	3 credits
CS230L	C++ Programming Lab	1 credit

Upper- Division Curriculum (Minimum 53 credit hours)

Computer Science Core (Minimum 39 credit hours)

CS300	Data Structure	3 credits
CS300L	Data Structure Lab	1 credit
CS332	Programming in Java	3 credits
CS332L	Java Programming Lab	1 credit
CE352	Introduction to Logic Design	3 credits
CE352L	Logic Design Lab	1 credit
CS400	Operating Systems	3 credits
CS400L	Operating Systems Lab	1 credit
CS402	Programming Languages	3 credits
CS404	Compilers	3 credits
CS420	Introduction to Database Systems	3 credits
CS440	Computer Networks I	3 credits
CE450	Computer Architecture I	3 credits
CE454	Microprocessor Design	3 credits
CE454L	Microprocessor Design Lab	1 credit
CE460	Introduction to Embedded Systems	3 credits
CE460L	Introduction to Embedded Systems Lab	1 credit

Electives (Minimum 14 credit hours)

Any courses at the 300-400 level or above at SVU in Computer Science or Computer Engineering.

Bachelor of Science in Computer Engineering (BSCE)

Program objectives: The BSCE program is designed to provide a basic background in computer science and engineering. The major emphasis is on design of digital computer hardware, including design of the software required by the computer to function, as well as the software tools required by applications.

Required credits: The BSCE program requires coursework in the following areas with a minimum of 128 credits in total:

- Lower Division   78 credits
  - General Education   66 credits
  - Computer Science Basics   12 credits
- Upper Division   50 credits
  - Computer Engineering Core   40 credits
  - Electives   10 credits

Lower- Division Curriculum (Minimum 78 credits)

A minimum of 78 lower division credit hours is required, with a minimum of 66 credit hours in General Education courses and 12 credit hours in Computer Science basics:

General Education (Minimum 66 credit hours)

Area A
Basic Subjects   9 credits
As a requirement of Area A, each student must complete:

ENGL100	English Composition
COMM120	Fundamentals of Intercultural Communications
ENGL200	Critical Thinking

Area B
Mathematics & Science Core   48 credits
As a requirement of Area B, each student must complete:

I. Mathematics   21 credits

MATH200	Calculus I
MATH202	Calculus II
MATH204	Calculus III
MATH206	Discrete Mathematics
MATH210	Introduction to Probability Theory
MATH212	Introduction to Statistical Methods
MATH214	Differential Equations

II. Natural Science   12 credits

EN200	Energy and Environment
PHYS200	College Physics I
PHYS202	College Physics II
EN220	Introduction to Environmental Science

III. Social Science   15 credits

ECON100	Principles of Economics: Macroeconomics
POLS100	U.S. History
PSYCH100	General Psychology
POLS150	American Government
ECON200	Principles of Economics: Microeconomics

Area C
Humanities and Communication   9 credits
As a requirement of Area C, each student must complete:

ENGL220	Technical Writing
ENGL230	Professional Communication I
ENGL232	Professional Communication II

Computer Science Basics (Minimum 12 credit hours)

CS200	Introduction to Computer Science	3 credits
CS200L	Computer Science Introduction Lab	1 credit
CS206	Introduction to UNIX/Linux	3 credits
CS206L	UNIX/Linux Introduction Lab	1 credit
CS230	Programming in C++	3 credits
CS230L	C++ Programming Lab	1 credit

Upper-Division Curriculum (Minimum 50 credit hours)

Computer Engineering Core (Minimum 40 credit hours)

CS300	Data Structure	3 credits
CS300L	Data Structure Lab	1 credit
CE350	Circuit Theory	3 credits
CE352	Introduction to Logic Design	3 credits
CE352L	Logic Design Lab	1 credit
CE353	Introduction to Digital Electronic	3 credits
CE353L	Digital Electronic Lab	1 credit
CS400	Operating Systems	3 credits
CS400L	Operating Systems Lab	1 credit
CS440	Computer Networks I	3 credits
CE450	Computer Architecture I	3 credits

CE452	Advanced Logic Design	3 credits
CE452L	Advanced Logic Design Lab	1 credit
CE454	Microprocessor Design	3 credits
CE454L	Microprocessor Design Lab	1 credit
CE456	Fundamentals of VLSI Design	3 credits
CE460	Introduction to Embedded Systems	3 credits
CE460L	Introduction to Embedded Systems Lab	1 credit

Electives (Minimum 10 credit hours)

Any courses at the 300-400 level or above in Computer Engineering or Computer Science at SVU.

Bachelor of Business Administration (BBA)

Program objectives: The BBA program is designed to provide students the fundamentals of current business functions, management principles as well as modern information technology as applied in a real-world business environment.

Required credits: The BBA program requires coursework in the following areas with a minimum of 128 credit hours in total:

- Lower Division   58 credits
  - o General Education   58 credits
- Upper Division   70 credits
  - o Core Courses   56 credits
  - o Electives   14 credits

Lower-Division Curriculum (Minimum 58 credit hours)

All students must complete at least 58 credit hours in general education courses with at least 12 credit hours in Basic Subjects, 37 credit hours in Mathematics and Science Core, and 9 credit hours in Humanities and Communications.

Area A
Basic Subjects   12 credits
As a requirement of Area A, each student must complete:

ENGL100	English Composition
MATH110	Mathematical Analysis
COMM120	Fundamentals of Intercultural Communications
ENGL200	Critical Thinking

Area B
Mathematics & Science Core   37 credits
As a requirement of Area B, each student must complete:

I. Mathematics   12 credits

MATH200	Calculus I
MATH202	Calculus II
MATH210	Introduction to Probability Theory
MATH212	Introduction to Statistical Methods

II. Natural Science   10 credits

CS200	Introduction to Computer Science
CS200L	Introduction to Computer Science Lab

EN200	Energy and Environment
EN220	Introduction to Environmental Science

III. Social Science   15 credits

ECON100	Principles of Economics: Macroeconomics
POLS100	U.S. History
PSYCH100	General Psychology
POLS150	American Government
ECON200	Principles of Economics: Microeconomics

Area C
Humanities and Communication   9 credits
As a requirement of Area C, each student must complete:

ENGL220	Technical Writing
ENGL230	Professional Communication I
ENGL232	Professional Communication II

Upper-Division Curriculum (Minimum 70 credit hours)

Business Administration Core (Minimum 56 credit hours)

BA300	Fundamentals of Accounting	3 credits
BA300L	Fundamentals of Accounting Lab	1 credit
BA301	Intermediate Accounting I	3 credits
BA301L	Intermediate Accounting Lab I	1 credit
BA302	Accounting for Management Decision Making	3 credits
BA302L	Accounting for Management Decision Making Lab	1 credit
BA320	Cash Management	3 credits
BA330	Introduction to Financial Management	3 credits
BA380	Introduction to Quantitative Methods in Business	3 credits
BA401	Intermediate Accounting II	3 credits
BA401L	Intermediate Accounting Lab II	1 credit
BA410	Enterprise Information Systems	3 credits
BA410L	Enterprise Information Systems Lab	1 credit

BA430	Introduction to Corporate Finance	3 credits
BA431	Introduction to Investment Analysis	3 credits
BA432	Financial Reporting and Analysis	3 credits
BA440	Management Principles	3 credits
BA442	Human Resource Management	3 credits
BA452	Operations Management	3 credits
BA460	Marketing Management	3 credits
BA462	Consumer Behavior	3 credits
BA481	Business Law	3 credits

Electives (Minimum 14 credit hours)

The student must complete at least 14 credit hours of elective courses to meet the graduation requirements from both the lower-division 300 level courses and the upper-division 400 level courses curricula in a program.

Courses can be chosen from elective courses in below:

BA352	Discovering Business	3 credits
BA354	Negotiation	3 credits
BA445	Organizational Theory and Behavior	3 credits
BA461	Business Communications	3 credits
BA463	Sales Management	3 credits
BA470	International Marketing	3 credits
BA496	Special Topics in Business Administration	3 credits
BA499	Independent Study	3 credits

GRADUATE PROGRAMS

SVU offers three graduate programs: Master of Science in Computer Science, Master of Science in Computer Engineering, and Master of Business Administration.

Master of Science in Computer Science (MSCS)

Program objectives: The MSCS program provides students with a strong theoretical background and practical experience in keeping current with the high tech trends and state-of-the-art technologies in Silicon Valley. Special topics are offered to introduce the latest developments and issues in both academic research and industry application areas. State-of-the-art hardware equipment and software tools currently used by most companies in Silicon Valley are used in the class.

Undergraduate Preparation
Students who do not have a Bachelor's degree in Computer Science must demonstrate competency in the following areas:

Mathematics		12 credits
MATH200	Calculus I	3 credits
MATH202	Calculus II	3 credits
MATH206	Discrete Mathematics	3 credits
MATH210	Introduction to Probability Theory	3 credits
Computer Science		**45 credits**
CS200	Introduction to Computer Science	3 credits
CS200L	Computer Science Introduction Lab	1 credit
CS206	Introduction to UNIX/Linux	3 credits
CS206L	UNIX/Linux Introduction Lab	1 credit
CS230	Programming in C++	3 credits
CS230L	C++ Programming Lab	1 credit
CS300	Data Structures	3 credits
CS300L	Data Structures Lab	1 credit
CS332	Programming in Java	3 credits
CS332L	Java Programming Lab	1 credit
CE352	Introduction to Logic Design	3 credits
CE352L	Logic Design Lab	1 credit
CS400	Operating Systems	3 credits
CS400L	Operating Systems Lab	1 credit
CS402	Programming Language	3 credits
CS404	Compilers	3 credits
CS420	Introduction to Database Systems	3 credits
CE454	Microprocessor Design	3 credits
CE454L	Microprocessor Design Lab	1 credit

CE460	Introduction to Embedded Systems	3 credits
CE460L	Introduction to Embedded Systems Lab	1 credit

Graduate Level Requirements   36 credit hours

Required credits: All MSCS students must complete coursework in the following areas with a minimum of 36 credit hours in total:

- Computer Science Graduate Core: 18 credits
- Electives: 18 credits

The details are shown in the table below.

Computer Science Graduate Core		18 credits
CS440M	Computer Networks I	3 credits
CE450M	Computer Architecture I	3 credits
CS500	Operating System Design	3 credits
CS502	Design & Analysis of Algorithms	3 credits
CS520	Database System Principles	3 credits
CS540	Computer Networks II	3 credits

Electives   Minimum 18 credits
Students in the MSCS program may take any 400 level or above of Computer Engineering or Computer Science as electives. However, no more than three 400 level courses can count towards the minimum of 36 graduate credit hours for graduation.

Master of Science in Computer Engineering (MSCE)

Program objectives: The MSCE program is designed to provide computer engineers and computer scientists with advanced level skills in all areas of computer engineering and offers several areas of specialization including: computer design, software engineering, microcomputers and embedded systems, computer vision and robotics, computer networks and multimedia.

Undergraduate Preparation
Students who do not have a Bachelor's degree in Computer Engineering must demonstrate competency in the following areas:

Mathematics		15 credits
MATH200	Calculus I	3 credits
MATH202	Calculus II	3 credits
MATH206	Discrete Mathematics	3 credits
MATH210	Introduction to Probability Theory	3 credits
MATH214	Differential Equations	3 credits
Natural Science		**6 credits**
PHYS200	College Physics I	3 credits
PHYS202	College Physics II	3 credits
Computer Engineering		**42 credits**
CS200	Introduction to Computer Science	3 credits
CS200L	Computer Science Introduction Lab	1 credit
CS206	Introduction to UNIX/Linux	3 credits
CS206L	UNIX/Linux Introduction Lab	1 credit
CS230	Programming in C++	3 credits
CS230L	C++ Programming Lab	1 credit
CS300	Data Structures	3 credits
CS300L	Data Structures Lab	1 credit
CE350	Circuit Theory	3 credits
CE352	Introduction to Logic Design	3 credits
CE352L	Logic Design Lab	1 credit
CE353	Introduction to Digital Electronic	3 credits
CE353L	Digital Electronic Lab	1 credit
CE452	Advanced Logic Design	3 credits
CE452L	Advanced Logic Design Lab	1 credit
CE454	Microprocessor Design	3 credits
CE454L	Microprocessor Design Lab	1 credit
CE456	Fundamentals of VLSI Design	3 credits
CE460	Introduction to Embedded Systems	3 credits
CE460L	Introduction to Embedded Systems Lab	1 credit

Graduate Level Requirements   36 credit hours

Required credits: All MSCE students must complete coursework in the following areas with a minimum of 36 credit hours in total:

- Computer Engineering Graduate Core: 19 credits
- Electives: 17 credits

The details are shown in the table below.

Computer Engineering Graduate Core		19 credits
CS400M	Operating Systems	3 credits
CS400M-L	Operating Systems Lab	1 credit
CS440M	Computer Networks I	3 credits
CE450M	Computer Architecture I	3 credits
CS540	Computer Networks II	3 credits
CE550	Computer Architecture II	3 credits
CE570	IC Design	3 credits
Electives		**Minimum 17 credits**
Students in the MSCE program may take any 400 level or above of Computer Engineering or Computer Science courses as electives. However, no more than three 400 level courses can count towards the minimum of 36 graduate credit hours for graduation.		

Master of Business Administration (MBA)

Program objectives: The MBA program covers the essential subjects in Accounting, Economics, Finance, Management Information Systems, and Marketing. These subjects provide the foundations for effective business management. The MBA program provides the students solid training with additional emphasis on entrepreneurship and globalization due to its proximity to Silicon Valley's vibrant startup culture and multinational corporations.

Undergraduate Preparation

Students who do not have a Bachelor's degree in Business Administration must demonstrate competency in the following areas:

Mathematics		6 credits
MATH210	Introduction to Probability Theory	3 credits
MATH212	Introduction to Statistical Methods	3 credits
Social Science		**6 credits**
ECON100	Principle of Economics: Macroeconomics	3 credits
ECON200	Principle of Economics: Microeconomics	3 credits
Computer Science		**4 credits**
CS200	Introduction to Computer Science	3 credits
CS200L	Computer Science Introduction Lab	1 credit
Business Administration		**18 credits**
BA300	Fundamentals of Accounting	3 credits
BA300L	Fundamentals of Accounting Lab	1 credit
BA301	Intermediate Accounting I	3 credits
BA301L	Intermediate Accounting I Lab	1 credit
BA330	Introduction to Financial Management	3 credits
BA380	Introduction to Quantitative Methods in Business	3 credits
BA410	Enterprise Information Systems	3 credits
BA410L	Enterprise Information Systems Lab	1 credit

Graduate Level Requirements   36 credit hours

Required credits: The MBA program requires students to compete at least 36 credit hours of graduate courses from the following:

- Core Courses: 18 credits
- Electives: 18 credits

The details are shown in the table below.

Business Administration Core		18 credits
BA442M	Human Resource Management	3 credits
BA452M	Operations Management	3 credits
BA500	Financial Accounting	3 credits
BA515	Enterprise Resource Planning	3 credits
BA530	Financial Management	3 credits
BA585	Statistical Methods for Business Research	3 credits

Electives	Minimum 18 credits
Students in the MBA program may take any 400 level or above courses as electives to meet the requirement. However, no more than three 400 level courses can count towards the minimum of 36 graduate credit hours for graduation.	

DOCTORAL PROGRAM

Doctor of Computer Engineering (DCE)

This Program is not eligible for Federal Student Financial Aid (FAFSA)

Mission and Objectives

Silicon Valley University Mission: The primary mission of Silicon Valley University (SVU) is to provide excellent educational programs in both undergraduate and graduate levels to equip and prepare students with the right set of knowledge and skills for careers in the high tech industry and competitive global business arena.

DCE Program Mission: The mission of Doctor Degree program offered by SVU is to provide students with solid fundamental knowledge, practical hands-on experiences and professional skills in their respective fields. This program is executed with the emphasis of combined fundamental and applied knowledge in course work along with a capstone research project relating to real-world applications.

DCE Program Objectives: The proposed DCE program awards a professional doctorate degree. It signifies the student has attained specialized and practical competence which qualifies the recipient for the opportunities and leadership responsibility beyond the master's degree level. The main objective of the DCE degree is to prepare graduates with advanced engineering knowledge and skills and applied engineering research capabilities in high tech industry and competitive global business arena. The DCE program provides the students with focus on hardware and embedded systems, or software and database systems and applied research of their areas of study.

DCE Program Admission Requirements

A) All applicants to the DCE degree program must hold either a Bachelor's or Master's degree or its equivalent from an accredited institution. The minimum GPA accepted for students entering the DCE program are: 2.75 for students entering the program with Bachelor's degree and 3.00 for students entering the program with Master's degree.

B) Applicants are strongly encouraged to provide an official GRE score taken less than five years prior to applying to SVU. The GRE score is used as one of the reference inputs for SVU's admission committee to assess the student's likelihood of successfully completing the DCE studies.

C) All international applicants must show proof of financial resources adequate to provide for all expenses while attending SVU.

D) Applicants whose native language is not English must demonstrate their English proficiency by providing an official score report from the Test of English as a Foreign Language (TOEFL®), the International English Language Testing Systems (IELTS™), or Test of English for International Communication (TOEIC®).

E) Applicants who have earned a degree from an institute where the language of instruction is English, (e.g. Australia, Canada, United Kingdom, United States, and New Zealand) are exempt from submitting a TOEFL®, IELTS™, or TOEIC® score. These applicants may be required to have their English proficiency evaluated when they arrive on campus.

Transfer of Credits

The maximum number of credit hours that can be transferred is up to 18 semester credit hours of graduate level courses for the DCE program if student is transferred from other accredited institutions in United States. The maximum number of credit hours that can be waived is up to 36 semester credit hours of graduate level courses for the DCE program if student earned the Master's degree at SVU. No credit is awarded for life or work experience.

DCE Courses and Research Requirements

SVU's DCE program requires completion of at least 108 trimester credit hours of graduate courses beyond Bachelor's degree level, which includes:

i CS/CE Graduate Core Courses: 39 Credit Hours

All DCE graduate students must have successfully completed 39 or more credit hours in the selected core requirement area. The required core courses are listed as follows:

CS400M	Operating Systems	3 credit hours
CS400M-L	Operating Systems Lab	1 credit hour
CS404M	Compilers	3 credit hours
CS440M	Computer Networks I	3 credit hours
CE450M	Computer Architecture I	3 credit hours
CE454M	Microprocessor Design	3 credit hours
CE454M-L	Microprocessor Design Lab	1 credit hour
CE456M	Fundamentals of VLSI Design	3 credit hours
CE460M	Introduction to Embedded Systems	3 credit hours
CE460M-L	Introduction to Embedded Systems Lab	1 credit hour

CS500	Operating System Design	3 credit hours
CS502	Design and Analysis of Algorithms	3 credit hours
CS520	Database System Principles	3 credit hours
CS540	Computer Networks II	3 credit hours
CE550	Computer Architecture II	3 credit hours

ii   CS/CE 400/500 Level Graduate Elective Courses: Minimum 18 Credit Hours

All DCE graduate students must have successfully completed 18 or more credit hours in 400/500 Master level CS/CE selected requirement area. The required CS/CE elective courses are listed as follows:

CS522	Database Administration	3 credit hours
CS524	Transaction Processing and Distributed Databases	3 credit hours
CS541	Internetworking with TCP/IP	3 credit hours
CS542	Network Management	3 credit hours
CS543	UNIX Network Programming	3 credit hours
CS544	Network Administration	3 credit hours
CE560	Embedded Computer Systems Design	3 credit hours
CS560	Software Engineering	3 credit hours
CS561	Software Design and Architecture	3 credit hours
CE562	Embedded Software Design	3 credit hours
CS562	Software Quality Assurance	3 credit hours
CE570	IC Design	3 credit hours
CE571	Computer Memory Design	3 credit hours
CE572	Embedded Hardware Design	3 credit hours
CE596-001	Digital Design with FPGA's	3 credit hours
CE596-004	ASIC CMOS Design	3 credit hours
CE596-005	IC Layout Design	3 credit hours
CE596-006	System On Chip (SoC) Design	3 credit hours
CE596-007	Real Time Computer System	3 credit hours
CE596-008	IC Placement & Routing Design	3 credit hours
CS596-011	Web Data Mining	3 credit hours

iii   Business/Management 400/500 Level Focus Courses: 18 Credit Hours

All DCE graduate students must have successfully completed 18 or more credit hours in the selected Business and Management focus area. The Business and Management elective courses are listed as follows:

BA442M	Human Resource Management (HRM)	3 credit hours
BA452M	Operations Management (OM)	3 credit hours
BA481M	Business Law	3 credit hours
BA500	Financial Accounting	3 credit hours
BA515	Enterprise Resource Planning (ERP)	3 credit hours
BA568	Customer Relationship Management (CRM)	3 credit hours

iv   DCE 600 Level Advanced Concentration Courses: Minimum 21 Credit Hours

All DCE graduate students can declare a concentration in one of the following areas: hardware & embedded systems, or software & database systems under the condition that they successfully complete 21 or more credit hours of advanced electives in the selected concentration area, including 3 credit hours of CE697 Research Seminar required course for all DCE candidates. The required concentration courses are listed as follows:

CS600	Advanced Operating Systems	3 credit hours
CS602	Advanced Design and Analysis of Algorithms	3 credit hours
CS620	Advanced Database System and Application	3 credit hours
CS621	Distributed and Parallel Database Systems	3 credit hours
CS622	Advanced Business Intelligence and Analytics	3 credit hours
CS640	Advanced Network System Development	3 credit hours
CE650	Advanced Computer Architecture	3 credit hours
CE651	Parallel Computer Architecture	3 credit hours
CS660	Advanced Software Engineering	3 credit hours
CE671	Advanced VLSI Physical Design	3 credit hours
CE672	Advanced ASIC Chip Synthesis	3 credit hours

CE697   Research Seminar   1 credit hour
(Research Seminar credits required 3 credit hours)

v Doctoral Research: 12 Credit Hours

After completing the requirement courses, the student must write a thesis to document the findings and pass an oral examination to defend the thesis. The thesis must be made available to all examiners one month prior to the examination. The oral defense shall consist of a presentation of the results of the thesis and the defense of thesis findings under questioning by examiners. This examination is open to all faculty members of SVU, but only members of the Doctoral Research Committee have a vote. The Doctoral Research Committee will decide if the candidate will be awarded a degree of the Doctor of Computer Engineering.

It is strongly recommended that doctoral students find a thesis advisor before taking the comprehensive examination. After passing the comprehensive examination, doctoral students should have a thesis advisor before the beginning of the next trimester following the comprehensive examination.

The student and his/her thesis advisor will jointly develop a study plan for research in a particular area. The plan must be filed with the Graduate Academic Dean's Office and approved by the student's Doctoral Research Committee.

The required doctorial research courses are listed as follows:

CE698   Doctoral Research I   6 credit hours
CE699   Doctoral Research II   6 credit hours

Graduation Requirements

The DCE degree requires minimum of 108 trimester credit hours of graduate courses beyond Bachelor's degree, including doctoral research. These credit hours must satisfy the following requirements:

- Completion of 96 credit hours of DCE graduate level courses plus 12 credit hours of doctoral research upon approval by the thesis advisor.

- Overall GPA must be 3.3 or higher.

GPA of 3.0 or higher is required for every trimester during the entire tenure of study. In addition, a grade of "B-" or better is required in all courses and in concentration areas.

Residency Requirements

Fulfill minimum of 3 years residency requirements.

The doctoral degree is awarded based on achievement rather than accumulation of credit hours. However, the candidate is expected to complete a minimum of 70 credit hours of graduate courses beyond the Master's degree. Of these, 58 credit hours may be earned through coursework, and 12 credit hours through the doctoral research project. If the candidate did not earn a Master degree at SVU, 18 credit hours of graduate level course work may be transferred from other accredited institutions at the discretion of the student's advisor.

DCE students must undertake a minimum of six consecutive trimesters of full-time study at the University; spring and fall trimesters are considered consecutive. The residency time shall normally be any period between passing the comprehensive examination and completion of the thesis. For this requirement, full-time study is interpreted as a minimum registration of 9 credit hours per trimester during the academic year and 6 credit hours during summer trimester. The Doctoral Advisory Committee must approve any variation from this requirement.

The minimum time to complete the DCE degree will be 3 years and normally it takes 4 years to complete the doctoral degree.

Complete the degree within 7 years of study

All requirements for the doctoral degree must be completed within seven years following acceptance into the DCE program. Extensions will be allowed only in unusual circumstances and must be approved in writing by the Academic Dean.

Written Comprehensive Examination

The comprehensive examination will be written. It includes subjects that are deemed by the department to represent sufficient in-depth preparation and breadth for advanced study in the area of computer science/engineering. Only those who pass the Written Comprehensive Examination can take the Written Qualifying Examination.

Students currently studying at SVU for a Master's degree who are accepted into the doctoral program and who are at an advanced stage of the M.S. program may, with the approval of their academic advisor, take the comprehensive examination before completing the M.S. degree requirements. Students who have completed the MS degree requirements, and who have been accepted for the doctoral program, should take the comprehensive examination as soon as possible

but no more than two years after beginning the program.

Only those students who pass the comprehensive examination shall be allowed to continue in the doctoral program. The comprehensive examination can be repeated only once at the discretion of the Doctoral Advisory Committee. A student failing the comprehensive examination the second time is disqualified from pursuing the doctoral degree at SVU.

A prospective doctoral student is required to pass a set of Written Comprehensive Examinations in hardware & embedded systems and software & database systems subjects to become a Doctoral candidate. The examinations will be conducted twice a year in August and January.

The examinations for concentration in Software/Database Systems will include the following six subjects:

1. CS440M   Computer Networks I
2. CE450M   Computer Architecture I
3. CS500   Operating System Design
4. CS502   Design and Analysis of Algorithms
5. CS520   Database System Principle
6. CS540   Computer Networks II

The examination for concentration in Hardware/Embedded Systems will include the following six subjects:

1. CS400M   Operating Systems
2. CS440M   Computer Networks I
3. CE450M   Computer Architecture I
4. CS540   Computer Networks II
5. CE550   Computer Architecture II
6. CE570   IC Design

The examination is normally conducted in a 3-day period. A student approved to take the scheduled comprehensive examinations the first time must take the six-subject examination during the same 3-day period of time.

To take the comprehensive examinations, the prospective doctoral students are required to submit a "Request for Taking Doctoral Comprehensive Examination" form by the specified deadline to the administrative staff in charge of the DCE program. The administrative staff will send the students a confirmation message for the examinations. Only those who have received confirmation for taking the comprehensive examinations from the administrative staff are allowed to attend the tests.

The minimum passing percentage of the overall average for the six subjects is 70%, with no single subject below 60%.

Each prospective doctoral student taking the examinations will be notified of "passing" or "failing" the examinations within a month after taking the examinations. A prospective doctoral student must pass the Written Comprehensive Examinations within the first two years of study in the DCE program and should start taking the examinations no later than 18 months after enrolling in the program.

Written Qualifying Examination

After passing the Written Comprehensive Examination and completing Advanced DCE concentration area course requirements approved by the Doctoral Advisory Committee, the student is allowed to take the Written Qualifying Examination. The student should take the Written Qualifying Examination no more than three years after beginning the program. The examination will cover six advanced subjects in 600 level DCE concentration courses.

For students concentrated in the Software/Database Systems, the examination will include the following six subjects:

1. CS600   Advanced Operating Systems
2. CS602   Advanced Design and Analysis of Algorithms
3. CS620   Advanced Database System and Application
4. CS622   Advanced Business Intelligence and Analytics
5. CS640   Advanced Network System Development
6. CS660   Advanced Software Engineering

For students concentrated in the Hardware/Embedded Systems, the examination will include the following six subjects:

1. CS600   Advanced Operating Systems
2. CS640   Advanced Network System Development
3. CE650   Advanced Computer Architecture
4. CE651   Parallel Computer Architecture
5. CE671   Advanced VLSI Physical Design
6. CE672   Advanced ASIC Chip Synthesis

Qualifying examinations may be repeated once at the discretion of the Doctoral Advisory Committee.

The minimum passing percentage of the overall average for the six subjects is 75%, with no single subject below 70%.

A student who passes the Written Qualifying Examinations is considered a degree candidate. The Written Qualifying Examinations normally must be completed within three years from the time the student is admitted to the doctoral degree program.

Doctoral Research and Defense

After passing the Written Qualifying Examination, the student shall present a research plan/proposal to the Doctoral Research Committee for the subject of the research work.

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

On the student's request, the thesis advisor will form a Doctoral Research Committee. The committee will consist of at least five members, including the thesis advisor and at least two members from the Computer Science/Engineering department. The committee must also include at least one member from outside the department, preferably from outside the School of Computer Science/Engineering. At least one member should be from another accredited institution. The Doctoral Research Committee will review the student's proposed program of studies and determine any further changes that may be required prior to approving the proposal.

After completing the Capstone/Thesis research work, the student must present the results, findings of the research to the Doctoral Research Committee orally and obtain critiques, feedback, and suggestions from the committee. All five committee members, including one member from an outside institution, must unanimously vote "Yes" to pass. Candidates only have a single opportunity to pass this examination.

At least one month before the DCE degree is to be conferred, the candidate must submit to the Office of the Academic Dean two copies of the final version of the thesis describing the research in its entirety. The thesis is not accepted until approved by the Doctoral Research Committee and one or more refereed articles based on the thesis are accepted for publication in a professional journal or conferences proceedings approved by the Doctoral Research Committee.

CERTIFICATE PROGRAMS

Certificate in Computer Networks and Telecommunications Engineering

Program objectives: This program provides a foundation of knowledge and skills necessary to function as a technical professional in the area of computer networks. This program will provide all the necessary prerequisites for advanced study in a specialized area of network engineering.

This program is composed of 585 hours of training.

Certificate Core Courses		Minimum of 210 hours
CS200	Introduction to Computer Science	75 hours
CS200L	Computer Science Introduction Lab	30 hours
CS206	Introduction to UNIX /Linux	75 hours
CS206L	UNIX/Linux Introduction Lab	30 hours
Electives		Minimum of 375 hours
CS402	Programming Languages	45 hours
CS404	Compilers	45 hours
CS440	Computer Network I	45 hours
CS540	Computer Network II	45 hours
CS541	Internetworking with TCP/IP	45 hours
CS542	Network Management	45 hours
CS543	UNIX Network Programming	45 hours
CS544	Network Administration	45 hours
CS596	Special Topics in Computer Science	45/60 hours

Certificate in Database Design and Software Engineering

Program objectives: This program provides students with broad-based general knowledge of database systems and concepts along with state-of-the art practical skills needed by database management professionals to succeed in the workplace.

This program is composed of 615 hours of training.

Certificate Core Courses		Minimum of 210 hours
CS200	Introduction to Computer Science	75 hours
CS200L	Computer Science Introduction Lab	30 hours
CS206	Introduction to UNIX /Linux	75 hours
CS206L	UNIX/Linux Introduction Lab	30 hours
Electives		Minimum of 405 hours
CS400	Operating Systems	75 hours
CS400L	Operating Systems Lab	30 hours
CS402	Programming Languages	45 hours
CS404	Compilers	45 hours
CS420	Introduction to Database Systems	45 hours
CS440	Computer Network I	45 hours

CS500	Operating System Design	45 hours
CS522	Database Administration	45 hours
CS524	Transaction Processing and Distributed Databases	45 hours
CS543	UNIX Network Programming	45 hours
CE560	Embedded Computer Systems Design	45 hours
CS560	Software Engineering	45 hours
CE596	Special Topics in Computer Engineering	45/60 hours
CS596	Special Topics in Computer Science	45/60 hours

COURSE DESCRIPTIONS

Definitions

BA: Business Administration
CE: Computer Engineering
COMM: Communication
CS: Computer Science
ECON: Economics
EN: Environmental Studies/ Environmental Science
ENGL: English
ESL: English as a Second Language
MATH: Mathematics
PHYS: Physics
POLS: Political Science
PSYCH: Psychology

Course Numbers

Course Number Prefix indicates each course level.

001-099 Non-Credit Courses

Courses with these numbers are offered by the University to permit students to make up deficiencies in previous training or to improve their facility in certain basic skills without earning credit.

100-299 Lower Division Courses

Courses with these numbers are for undergraduate students. They carry no graduate credit, although graduate students may be admitted to such courses in order to make up prerequisites or to gain a foundation for advanced courses.

300-499 Upper Division Courses

Courses with these numbers are for advanced undergraduate students. They constitute the advanced portion of an undergraduate program leading to the bachelor's degree.

Upper division course number which follows with an M: Master degree program students enrolled in undergraduate upper division course.

Upper division course number which follows with an M-L: Master degree program students enrolled in undergraduate upper division laboratory course.

500-699 Graduate Courses

Courses with these numbers are for graduate students.
Course Numbers Convention

Course Number Suffix indicates each course in the area of specialization.

Business Administration
00-09: Accounting
10-19: Information System
20-39: Finance
40-59: Management
60-79: Marketing
80-89: Others

Computer Science and Computer Engineering
00-19: Computer Science Introduction/ Fundamental/Operating Systems
20-29: Databases
30-39: Programming
40-49: Networks
50-59: Computer Engineering Introduction/ Fundamental
60-69: Software Systems/Embedded Systems
70-79: Board/Chip Hardware Systems
80-89: Others

Special Courses
91-92: Curricular Practical Training Project
96: Special Topics
97: Thesis
98: Projects/Research
99: Independent Studies

Lab Courses

Lab courses designated by an "L" are not considered a course variation. Credits earned from the undergraduate upper division 400 level core or elective courses will be counted towards graduation requirement.

GENERAL EDUCATION UNDERGRADUATE COURSES

Area A
Basic Subjects

ENGL100 English Composition
3 credit hours (3 hours of lecture)
The course is designed to introduce students to the general process of communicating meaning through writing and to provide students with practice in writing short personal essays. Students will be exposed to expository writing, supplemented by critical reading.
Prerequisite: English Placement Test

MATH110 Mathematical Analysis
3 credit hours (3 hours of lecture)
This course is designed for preparing undergraduate students in obtaining knowledge and skills of algebra operations, trigonometry, analytic geometry and concepts of limits that lead to fundamentals of calculus. Students completing this course will have the capabilities to enroll in MATH200 (Calculus I). Topics covered in this course are: Functions with Graphs, Polynomial and Rational Functions, Exponential and Logarithmic Functions, Trigonometry, Analytic Trigonometry, Systems of Equations and Inequalities, Matrices and Determinants, Sequences, Series and Probability Theory. Analytic Geometry, Analytic Geometry in Three Dimensions, Vectors, Limits and Introduction to Calculus.
Prerequisite: None

COMM120 Fundamentals of Intercultural Communication
3 credit hours (3 hours of lecture)
This course focuses on direct experience and the development of skill in intercultural communication. This course provides opportunity for discussion of variations within and among cultures and encourages students to examine their own cultural heritage.
Prerequisite: None

ENGL200 Critical Thinking
3 credit hours (3 hours of lecture)
This course is designed to help students develop their skills in reasoning, analysis and the use of logical arguments. Students will learn how to better interpret and evaluate the materials they read and to understand and appreciate viewpoints which are different from their own. The course will be focused toward learning to see the arguments for both sides of an issue as a part of the process of reaching sound conclusions.
Prerequisite: ENGL100

Area B
Mathematics & Science Core

I. Mathematics

MATH100 College Algebra
3 credit hours (3 hours of lecture)
This course is designed to prepare undergraduate students to obtain knowledge and skills of algebraic operations. Students completing this course will be able to enroll in Math 200 (Calculus I). Topics covered in this course are: Review of Basic Concepts of Algebra, Equations and Inequalities, Coordinate Geometry and Graphing, Functions and Inverse Functions, Polynomial and Rational Functions, Exponential and Logarithmic Functions, Systems of Equations, Matrices Algebra, Conic Sections, Sequences and Mathematical Inductions.
Prerequisite: None

MATH200 Calculus I
3 credit hours (3 hours of lecture)
This is the first undergraduate level calculus course focused on conceptual understanding and technical competence through evaluating function limits and derivatives along with applications in science, engineering and business. Topics covered in this course are: Functions, Mathematical Models, Limits, Continuity, and Derivatives, Differentiation Rules, Implicit Differentiation, Applications of Differentiations in Various Fields, Finding Maximum and Minimum, L'Hospital's Rule, Newton's Method in Solving Non-linear Equations, and Evaluating Anti-derivatives. Students enrolling in this course are recommended to have high school Pre-Calculus training with fundamental knowledge of algebra operations.
Prerequisite: None

MATH202 Calculus II
3 credit hours (3 hours of lecture)
This is the second undergraduate level calculus course focused on conceptual understanding and technical competence through evaluating definite and indefinite integrals along with its applications in various fields. Topics covered in this course are: Fundamental Theorem of Calculus, Definite and Indefinite Integrals, Substitution Rule, Integration by Parts, Integration of Rational Functions by Partial Fractions, Improper Integrals, Strategies for Performing Integration, and Applications of Integration in Different Disciplines. Students enrolling in this course are recommended to have high school Pre-Calculus training with fundamental knowledge of algebra operations and basic differentiations.
Prerequisite: MATH200

MATH204 Calculus III
3 credit hours (3 hours of lecture)
This is the third undergraduate level calculus course focused on conceptual understanding and technical competence developing in calculus with parametric equations, polar coordinates, power series, Taylor & Maclaurin series, partial derivatives and directional derivative evaluation and Multiple integrals evaluation. Topics covered in this course are: Curves Represented by Parametric Equations, Calculus with Parametric Curves, Area and Arc Length in Polar Coordinates, Sequences and Series, Integral and Comparison Tests, Absolute Convergence and Ratio and Root Test, Power Series, Taylor and Maclaurin Series and their Applications, Functions of Several Variables, Partial Derivatives, Directional Derivatives and Gradient Vector, Lagrange Multiplier in Multi-variables Optimization, and Multiple Integrals and Its Applications. Students enrolling in this course are recommended to have high school Pre-Calculus training with fundamental knowledge of algebra operations and basic differentiations.
Prerequisite: MATH202

MATH206 Discrete Mathematics
3 credit hours (3 hours of lecture)
This course is to provide fundamental mathematical concepts and methodologies of discrete mathematics for computer science majors. Subjects related to data structures and algorithm analysis in computer science and engineering will be presented. Topics covered in this course are: Algorithms, Induction and Recursion Analysis, Counting Principles, Advanced Counting Techniques, Relations, Graphs, Trees, and Boolean Algebra. Students enrolled in this course are recommended to have high school algebra and pre-calculus background.
Prerequisite: None

MATH210 Introduction to Probability Theory
3 credit hours (3 hours of lecture)
This course provides undergraduate students with fundamental knowledge of probability distributions and applications of probability theory to various areas, such as science, engineering and business. Topics covered are: Introduction to Probability, Conditional Probability, Discrete Random Variables and Distributions, Expectation, Variance, Bernoulli Distribution, Binomial Distribution, Negative Binomial Distribution, Hyper geometric Distribution, and Poisson Distribution, Continuous Random Variables and Distributions, Normal Distribution, Log Normal Distribution, Exponential Distribution, Gamma Distribution, Rayleigh Distribution, Weibull Distribution, Beta Distribution, t-Distribution, Chi-Square Distribution, and F-Distribution, Joint Probability Distribution, Marginal Probability Distribution, Covariance and Correlation, Maximum Likelihood Estimation, Bayesian Estimation, and Sampling Distributions of Estimators.
Prerequisite: MATH202

MATH212 Introduction to Statistical Methods
3 credit hours (3 hours of lecture)
This course provides undergraduate students with basic theory of statistics and its applications to various areas, such as science, engineering and business. Topics covered are: Nature of Statistics, Organizing of Data, Descriptive Measure of Sample Mean and Variance, Interquartile Range, Box-Whisker Plot, Sampling Distribution of the Sample Mean, Confidence Intervals for One Population Mean, Hypothesis Testing, Hypothesis Tests for One Population Mean, Inferences for Two Population Means, Inferences for Population Standard Deviations, Inferences for Population Proportions, Method of Least Squares, Descriptive Methods in Regression and Correlation, Multiple Linear Regression, Inferential Methods in Regression and Correlation, Analysis of Variance (ANOVA).
Prerequisite: MATH202

MATH214 Differential Equations
3 credit hours (3 hours of lecture)
This course is focused on the concept, theory, methodology, and applications of Ordinary Differential Equations in various fields. Topics to be covered in this course are: First-Order Differential Equations and Mathematical Modeling of Real World Problems, Linear Second-Order Differential Equations, Phase Plane Analysis, Theory of Higher-Order Linear Differential Equations, Laplace Transformation Methods, Series Solutions of Differential Equations, and Matrix Methods for Linear Systems.
Prerequisite: MATH202

II. Natural Science

EN200 Energy and Environment
3 credit hours (3 hours of lecture)
This is an interdisciplinary course between energy science and environment science which includes two major subjects between energy and environmental issues: energy science and technologies, and social and environmental consequences of various energy technologies. Topics to be covered in energy science and technologies are: the geological origins of fossil fuels and their uneven global distribution and depletion rates; the scientific principles and technologies governing fossil, wind, biomass, water-tidal, geothermal and solar energy, nuclear fission and nuclear fusion energy, the use and storage of energy by plants. Topics to be covered in social and environmental consequences of various energy technologies are: the greenhouse effect and global warming, acid rain; the hazards and disposal of radioactive wastes; traffic congestion, urban sprawl; and social-economic inequalities in the access to energy, and future solutions to the energy and environmental issues.
Prerequisite: None

EN220 Introduction to Environmental Science
3 credit hours (3 hours of lecture)
This course is designed to facilitate knowledgeable opinions and meaningful decisions about today's environmental issues. This course introduces ecological principles as they apply to the interrelated dilemmas of sustainability. The purpose of this course is to provide a basic introduction to ecological systems and environmental issues. We will study the impact of humans on ecosystems, with a focus on environmental problems and sustainable solutions. After a brief review of basic scientific and ecological concepts, we will cover the three fundamental aspects of environmental studies - population, resource depletion, and pollution. Topics in this course include: overpopulation, pollution, waste management, and over-consumption of natural resources, conservation management, bio-fuels, recycling, and the ethics of land use.
Prerequisite: None

PHYS200 College Physics I
3 credit hours (3 hours of lecture)
This course is the first part of college physics and designed for preparing Computer Science and Engineering undergraduate students in obtaining knowledge and ideas of physical concepts and theory in mechanics and thermodynamics with applications in those areas. Topics covered in this course are: Kinematics in One, Two and Three Dimensions, Newton's Law of Motion and Applications, Work, Energy and Conservation of Energy, Conservation of Linear and Angular Momentum, Static Equilibrium, Fluids, Oscillations, Wave Motions and Sound, The Ideal Gas Law, Kinetic Theory of Gases, Heat, The First and Second Law of Thermodynamics.
Prerequisite: None

PHYS202 College Physics II
3 credit hours (3 hours of lecture)
This course is the second part of college physics and designed for preparing Computer Science and Engineering undergraduate students in obtaining knowledge and ideas of physical concepts and theory in electricity, magnetism, electromagnetic waves, particle and wave nature of light with applications in those areas. Topics covered in this course are: Electric Charge and Electric Field, Gauss Law, Electric Potential, Electric Energy Storage, Electric Currents and Resistance, Magnetism, Magnetic Field, Electromagnetic Induction and Faraday's Law, Maxwell Equations and Electromagnetic Waves, Particle Nature of Light, Reflection and Refraction, Wave Nature of Light, Interference and Diffraction.
Prerequisite: PHYS200

III. Social Science

ECON100 Principles of Economics: Macroeconomics
3 credit hours (3 hours of lecture)
This course explores the determination of economic aggregates such as total output, total employment, the price level and the rate of economic growth.
Prerequisite: None

POLS100 U.S. History
3 credit hours (3 hours of lecture)
This course covers the treatment of essentials of U.S. history and politics. Topics covered include U.S. history, government and ideals.
Prerequisite: None

PSYCH100 General Psychology
3 credit hours (3 hours of lecture)
This course studies the perception, attention, learning, remembering, thinking, development of the individual, intelligence, aptitudes, emotions, motivation, adjustment and conflict; designed to give insight into oneself and others.
Prerequisite: None

POLS150 American Government
3 credit hours (3 hours of lecture)
This course covers the institutions and processes of American government and democracy; the U.S. Constitution and California State and local government. Topics covered include American and California government.
Prerequisite: None

ECON200 Principles of Economics: Microeconomics
3 credit hours (3 hours of lecture)
Principles of microeconomics are explored, including market supply and demand, production and cost functions, industry structure, and product and resource pricing. Topics covered include allocation of resources and distribution of income as affected by the workings of the price system and by government policies.
Prerequisite: None

Area C
Humanities and Communication

ENGL220 Technical Writing
3 credit hours (3 hours of lecture)
Advanced writing through preparation of technical reports and presentations. Improving skills for writing subject-related reports, project proposals and personal resumes through practice and evaluation.
Prerequisite: ENGL100

ENGL230 Professional Communication I
3 credit hours (3 hours of lecture)
This course is designed to increase an individual's communicative capacity in the English language by introducing the particular forms and conventions of the language as it is used in professional settings. Students will focus on identifying and developing the language required to obtain their own specific professional objectives through the presentation and refinement of the various forms of oral and written communication commonly employed in business environments. Particular emphasis is given to the crafting and presentation of information acquired through complex research, as well as to the employment search, including the drafting of competent resumes and cover letters, the requirements of professional demeanor and the qualities of effective interviewing.
Prerequisite: None

ENGL232 Professional Communication II
3 credit hours (3 hours of lecture)
This course is designed to complement Professional Communication I and focuses on increasing an individual's communicative capacity through increasingly sophisticated, complex and nuanced presentations in English. Particular emphasis is given to the structure, content and tone of the language used in professional correspondence, including letters and conversations of inquiry, reply, complaint, negotiation, acceptance and rejection, as well as the elements of creating dynamic and effective multimedia presentations.
Prerequisite: ENGL230

COMPUTER SCIENCE & COMPUTER ENGINEERING UNDERGRADUATE COURSES

CS200 Introduction to Computer Science
3 credit hours (3 hours of lecture)
Computer science is the study of the theoretical foundations of information and computation. This is an introductory course for students with little or no computer science background. Topics include: history of computing, the basics of hardware and software, operating systems, computer networks, Internet technologies, programming, and software applications.
Prerequisite: None
Co-requisite: CS200L

CS200L Computer Science Introduction Lab
1 credit hour (2 hours of lab)
This lab course is designed to be taken with CS200. Students will learn basic knowledge in operating computers. Topics include: the basics of hardware and software, operating systems, computer networks, Internet technologies, programming, software applications.
Co-requisite: CS200

CS206 Introduction to UNIX/Linux
3 credit hours (3 hours of lecture)
This course is a practical introduction to UNIX and Linux operating systems. Topics include: user accounts, the visual editor, file system and access control, process management, system calls, system utilities, UNIX handling of files and processes, basic shell utilities and shell scripting.
Prerequisite: None
Co-requisite: CS206L

CS206L UNIX/Linux Introduction Lab
1 credit hour (2 hours of lab)
This lab course is designed to be taken with CS206. Students will gain hands-on experience with UNIX and Linux. Topics include: user accounts, the visual editor, file system and access control, process management, system calls, system utilities, UNIX handling of files and processes, basic shell utilities and shell scripting.
Co-requisite: CS206

CS230 Programming in C++
3 credit hours (3 hours of lecture)
As one of the most popular programming languages ever created, C++ is widely used in the software industry. It was developed by Barnes Stroustrup as an enhancement to the C programming language. This course starts by introducing fundamental programming constructs such as loops, functions, and arrays followed by object-oriented programming concepts and the use of the object-oriented approach to build interesting applications with exception handling, I/O, and data structures. Topics include: elementary programming, selections, loops, functions, arrays, objects and classes, pointers and dynamic memory management, templates and vectors, file I/O, operator overloading, inheritance and polymorphism, exception handling.
Prerequisite: None
Co-requisite: CS230L

CS230L C++ Programming Lab
1 credit hour (2 hours of lab)
This lab course is designed to be taken with CS230. Students will devote a lot of time to writing programs, testing them, and fixing errors. The programming assignments will help students learn key features of the C++ language and improve their programming skills. Topics include: elementary programming, selections, loops, functions, arrays, objects and classes, pointers and dynamic memory management, templates and vectors, file I/O, operator overloading, inheritance and polymorphism, exception handling.
Co-requisite: CS230

CS300 Data Structures
3 credit hours (3 hours of lecture)
A data structure is a particular way of storing and organizing data in a computer so that it can be used efficiently. This course introduces the basic data structures as the building blocks of computer software. Students will also learn the efficient use of data structures and algorithms. Topics include: arrays, lists, stacks, queues, trees, heaps, graphs, sorting, searching, hashing, and Big-O notation.
Prerequisite: CS230 or CS332 (or equivalent)
Co-requisite: CS300L

CS300L Data Structures Lab
1 credit hour (2 hours of lab)
This lab course is designed to be taken with CS300. Through lab exercises, students will gain practical experience with the implementation and application of various data structures. Topics include: arrays, lists, stacks, queues, trees, heaps, graphs, sorting, searching, hashing, and Big-O notation.
Co-requisite: CS300

CS332 Programming in Java
3 credit hours (3 hours of lecture)
Java is currently one of the most popular programming languages in use, and is widely used from application software to web applications. It was originally developed by James Gosling to be a simple, object-oriented, robust, secure, architecture neutral, portable, concurrent, and dynamic language. This course first introduces basic programming constructs such as loops, methods, and arrays followed by object-oriented programming concepts and the rich GUI API of Java. Topics include: elementary programming, selections, loops, methods, arrays, objects and classes, strings and text I/O, inheritance and polymorphism, abstract classes and interfaces, object-oriented design and patterns, GUI basics, graphics, event-driven programming, exception handling.
Prerequisite: None
Co-requisite: CS332L

CS332L Java Programming Lab
1 credit hour (2 hours of lab)
This lab course is designed to be taken with CS332. Students will devote a lot of time to writing programs, testing them, and fixing errors. The programming assignments will help students learn key features of the Java language and improve their programming skills. Topics include: elementary programming, selections, loops, methods, arrays, objects and classes, strings and text I/O, inheritance and polymorphism, abstract classes and interfaces, object-oriented design and patterns, GUI basics, graphics, event-driven programming, exception handling.
Co-requisite: CS332

CE350 Circuit Theory
3 credit hours (3 hours of lecture)
Circuit theory is the key to understanding the importance of electric circuits to the engineering world and the quality of our lives. This course provides the fundamental aspects of electric circuits and strong problem solving skills to resolve circuit problems using circuit laws and theorems. Topics include analysis of circuits containing resistors, capacitors, inductors and controlled source, Kirchhoff's Law, simple resistive circuits, node-voltage method, mesh-current method, Thevenin's Theorem, Norton's theorem, operational amplifier and its applications, and transient analysis of first and second order circuits.
Prerequisite: MATH214

CE352 Introduction to Logic Design
3 credit hours (3 hours of lecture)
Logic design is the key to know how logic circuits are implemented in the real world and to become familiar with the concept of design process in industry. This course provides an introduction to the analysis and design of digital circuits at a logical level instead of electronic level. Topics include Boolean functions and their minimization, designing combinational circuits, adders, multipliers, multiplexes, decoders, noise margin, propagation delay, bussing, memory elements, latches and flip-flops, timing, setup and hold time, registers, counters, implementation in standard cells, programmable logic, PLD, and FPGA.
Prerequisite: None
Co-requisite: CE352L

CE352L Logic Design Lab
1 credit hour (2 hours of lab)
This lab course is designed to be taken with CE352. Students will gain hand-on experience with logic design through lab exercises. The assignments will help students learn key features of logic design. Topics include: Boolean functions, adders, multipliers, multiplexes, decoders, system bus, memory, latches, flip-flop, registers, and counters.
Co-requisite: CE352

CE353 Introduction to Digital Electronics
3 credit hours (3 hours of lecture)
This course is designed to be the first of the digital circuit series. It provides the fundamentals of digital circuit operations so that students can be ready for practical design considerations in digital electronics, and it includes hands-on experience with digital logic elements and testing and measuring equipment. Topics covered in this course are: number systems and codes, logic gates and Boolean algebra, combinational logic circuits, flip-flops and related devices, digital arithmetic, counters and registers, integrated-circuit logic families, A/D and D/A converters.
Prerequisite: None
Co-requisite: CE353L

CE353L Digital Electronics Lab
1 credit hour (2 hours of lab)
This lab course is designed to be taken with CE353. Students will gain hands-on experience with digital electronics through lab exercises. The assignments will help students learn key features of electronics. Topics include: logic gates, Boolean algebra, combinational logic circuits, digital arithmetic, integrated-circuit families, A/D, and D/A converters.
Co-requisite: CE353

CS400 Operating Systems
3 credit hours (3 hours of lecture)
An operating system (OS) is a set of system software programs in a computer that regulate the ways application software programs use the computer hardware and the ways that users control the computer. This class introduces the basic facilities provided in modern operating systems. Topics include: principles of operating system design and implementation; concurrent processes; inter-process communication; job and process scheduling; deadlock handling; issues in memory management (virtual memory, segmentation, paging); and auxiliary storage management (file systems, directory structuring, protection mechanisms); performance issues; and case studies.
Prerequisite: CS230 or CS332 (or equivalent)
Co-requisite: CS400L

CS400L Operating Systems Lab
1 credit hour (2 hours of lab)
This lab course is designed to be taken with CS400. Through lab exercises, students will gain hands-on experience by implementing key features of operating systems. Topics include: process management, memory management, and file systems.
Co-requisite: CS400

CS402 Programming Languages
3 credit hours (3 hours of lecture)
Programming languages are the medium of expression in the art of programming. This course explores the issues and trade-offs in the design and implementation of modern programming languages. Topics include: functions, procedures, types, memory management, controls, data abstraction, modularity, object-oriented programming, run-time efficiency, portability and safety.
Prerequisite: CS230 or CS332 (or equivalent)

CS404 Compilers
3 credit hours (3 hours of lecture)
A compiler is a computer program that transforms source code written in a programming language into the target language to create an executable program. This course introduces the student to the principles and practices of compiler implementation. Topics include: regular expressions, lexical analysis, syntax analysis (parsing), context-free language, semantic analysis, intermediate code generation and optimization, object code generation and optimization.
Prerequisite: CS300

CS420 Introduction to Database Systems
3 credit hours (3 hours of lecture)
A database management system provides efficient, reliable, convenient, and safe multi-user storage of and access to massive amounts of persistent data. This course covers the basic concepts of a database system. Topics include: data models, relational algebra, database design, E-R modeling, functional dependency analysis, normalization, SQL queries, updates, constraints, triggers, views, stored procedures, embedded and dynamic SQL.
Prerequisite: Upper Division Standing

CS440 Computer Networks I
3 credit hours (3 hours of lecture)
Computer networks form the backbone of technology in the information age. 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, Fourier analysis, modulation and multiplexing, telecommunications and ISDN, OSI reference model, Media Access Control, error detection, flow control, error control, congestion control, routing, and network applications.
Prerequisite: Upper Division Standing

CE450 Computer Architecture I
3 credit hours (3 hours of lecture)
The goal of this course is to provide the students with a working knowledge of how computers operate and the general principles that affect their performance. The topics of this course include an in-depth presentation on major functional units of small to medium-scale digital computers, on machine instruction set characteristics, pipelining and caching, design of arithmetic and logic data path, and the detailed control units. The key aspects of CPU performance, RISC processor design and instruction-level implication will be also addressed.
Prerequisite: CE352

CE452 Advanced Logic Design
3 credit hours (3 hours of lecture)
This course provides an introduction to the design and implementation of the computer logic. The principles of discrete logic design will be presented including Boolean algebra, finite-state machine design, logic minimization and optimization using both hand-compiled (Karnaugh maps) and EDA tool-based techniques. Topics include contemporary design of finite-state machines as system controllers using MSI, PLDs, or FPGA devices; minimization techniques; performance analysis and modular system design; and design and analysis of asynchronous systems.
Prerequisite: CE352
Co-requisite: CE452L

CE452L Advanced Logic Design Lab
1 credit hour (2 hours of lab)
This lab course is designed to be taken with CE452. Students will gain hands-on experience with advanced logic design through lab exercises. The assignments will help students learn key features of logic design and improve their design skills. Topics include: finite-state machine using FPGA devices, logic minimization and optimization.
Co-requisite: CE452

CE454 Microprocessor Design
3 credit hours (3 hours of lecture)
This course in Microprocessor design gives an overview of the computer architecture, the components of a microprocessor, and some of the basic architectures of modern microprocessors. This course covers essential information about the electrical and logical issues of interfacing devices in microprocessor-based systems. Topics include memory-interfacing techniques; interfacing peripherals; keyboards; displays; analog-to-digital and digital-to-analog converters; bus architecture topologies; and loading effects.
Prerequisite: CE352
Co-requisite: CE454L

CE454L Microprocessor Design Lab
1 credit hour (2 hours of lab)
This lab course is designed to be taken with CE454. Students will gain hands-on experience with microprocessor design through lab exercises. The assignments will help students learn key features of microprocessor. Topics include: memory interface, peripherals, keyboards, displays, analog-to-digital converters, digital-to-analog converters, and system bus architecture.
Co-requisite: CE454

CE456 Fundamentals of VLSI Design
3 credit hours (3 hours of lecture)
VLSI Design is the design process of creating integrated circuits by combining thousands of transistors into a single chip. VLSI can incorporate components that perform analog, digital or both. The basic of VLSI design coverage of key CMOS/BiCMOS design requirements. Topics include: the concepts and techniques of modern integrated circuit design. IC history, VLSI design flow, MOS transistor theory, CMOS fabrication technology, layout design & stick diagrams, CMOS design flow methods, circuit simulation, circuit performance estimation, design rules, and design verification, using commercial computer aided design (CAD) tools.
Prerequisite: CE353

CE460 Introduction to Embedded Systems
3 credit hours (3 hours of lecture)
This course will cover the basic concepts of embedded system architecture and the methodology behind the cross development toolchains. There will be an overview of the Linux kernel configuration, types of bootloaders, types of Linux file systems, and the use of the tool chain to build an embedded Linux operating system and file system. The class will review topics on Linux internals, including the scheduler, device drivers, multiprocessing, multithreading, and interrupt handlers. There will be lab exercises to provide hands-on experience on cross platform development for an embedded Linux 2.6 system on an ARM 9 microcontroller target Course Topics covered: Embedded Linux Basic Concepts, GNU Cross-Platform Development Tool chain, Embedded Boot loaders, Root File System Selection For Embedded Devices, Linux Kernel Considerations, Network Settings in Embedded Systems, Linux Kernel Overview (Kernel Modules, Device Drivers), Linux Kernel Overview (Linux Scheduler, Multi-Processing, Multi-Threading, Interrupt Handlers), Debugging Tools and Real Time Systems Overview.
Prerequisite: CS206 and CS230
Co-requisite: CE460L

CE460L Introduction to Embedded Systems Lab
1 credit hour (2 hours of lab)
The lab course is designed to be taken with CE460. Students will gain hands- on experience with building embedded systems through lab work and exercises. The lab assignments will help students learn key practical knowledge and skills of embedded systems design. Topics included: : Embedded Linux Basic Concepts, GNU Cross-Platform Development Tool chain, Embedded Boot loaders, Root File System Selection For Embedded Devices, Linux Kernel Considerations, Network Settings in Embedded Systems, Linux Kernel Overview (Kernel Modules, Device Drivers), Linux Kernel Overview (Linux Scheduler, Multi-Processing, Multi-Threading, Interrupt Handlers), Debugging Tools and Real Time Systems Overview
Co-requisite: CE460

CE480 Introduction to Nanotechnology
3 credit hours (3 hours of lecture)
This course provides an overview the key elements of physics, chemistry, biology, and engineering related to the basic nanotechnology concept. It also addresses the fundamental scientific and technological underpinnings of the important new field of nanotechnology used in various areas. Topics include quantum theory, nano-electronics and materials, and the applications applied to the various fields such as defense systems, body health, medicine, security systems, and current green technology.
Prerequisite: PHYS202

CE496 Special Topics in Computer Engineering
3 credit hours (3 hours of lecture)
The CE496 covers various subjects of current interest in the field of Computer Engineering. A student may take this more than once if the topics are different. Topics include: IC Layout Design. Topics include: Basic IC Layout Design.
Prerequisite: Upper Division Standing

CS496 Special Topics in Computer Science
3 credit hours (3 hours of lecture)
This course covers various subjects of current interests in the field of Computer Science. A student may take this course more than once if the offered topics are different. Topics include: Bioinformatics, Special Project in Bioinformatics; and Clinical Trial & SAS Applications.
Prerequisite: Upper Division Standing

CE498   Undergraduate Project
3 credit hours (3 contact hours)
CE498 is a supervised development, analysis, and/or research in the field of Computer Engineering. To initiate an undergraduate project, the student should set up a counseling session with a potential project instructor to define the project objective, scope, and progress check points. In general, the student should meet with his or her instructor at least biweekly and submit a formal report and presentation for discussion and evaluation. Upon completion, and with the instructor's approval, a final report shall be submitted to CE department and a formal project presentation shall be presented to the department.
Prerequisite: Upper Division Standing

CS498 Undergraduate Project
3 credit hours (3 contact hours)
CS498 is a supervised development, analysis, and/or research in the field of Computer Science. To initiate an undergraduate project, the student should set up a counseling session with a potential project instructor to define the project objective, scope, and progress check points. In general, the student should meet with his or her instructor at least biweekly and submit a formal report and presentation for discussion and evaluation. Upon completion, and with the instructor's approval, a final report shall be submitted to CS department and a formal project presentation shall be presented to the department.
Prerequisite: Upper Division Standing

CE499 Independent Study
1-3 credit hours (1-3 contact hours)
Independent study tailored to a student's special interest in computer 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.
Prerequisite: Upper Division Standing

CS499 Independent Study
1-3 credit hours (1-3 contact hours)
Independent study tailored to a student's special interest in computer science 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.
Prerequisite: Upper Division Standing

COMPUTER SCIENCE & COMPUTER ENGINEERING GRADUATE COURSES

CS500 Operating System Design
3 credit hours (3 hours of lecture)
Based on the fundamentals introduced in CS400, this course further explores key components of an operating system, such as kernel architecture, processes, memory management, and file systems. Topics include: process description and control, threads, SMP, and micro-kernels, concurrency, memory management, virtual memory, uniprocessor scheduling, multi-processor and real-time scheduling, I/O management, disk scheduling, file management.
Prerequisite: CS400

CS502 Design and Analysis of Algorithms
3 credit hours (3 hours of lecture)
An algorithm is an effective method for solving a problem expressed as a finite sequence of instructions. This course provides students with balanced introduction on computational models for asymptotic time-space complexity analyses as well as algorithmic design techniques with performance and cost implications. Topics include: growth of functions, recurrences, probabilistic analysis and randomized algorithms, sorting algorithms, binary search trees, red-black trees, dynamic programming, greedy algorithms, B-trees, heaps, graph algorithms, minimum spanning trees, shortest paths, maximum flow, sorting networks.
Prerequisite: CS300

CS520 Database System Principles
3 credit hours (3 hours of lecture)
Based on the fundamentals introduced in CS420, this course explores key aspects of database system implementation, focusing on storage structures, query processing, and transaction management. Topics include: secondary storage management, data integrity, index structures, query execution, query processing and query optimization, recovery, concurrency control, and transaction management.
Prerequisite: CS420

CS522 Database Administration
3 credit hours (3 hours of lecture)
Database administration is the key to success of any Relational Database Management System (RDBMS). This course provides the fundamental concepts and techniques involved in the administration of an ORACLE database. Topics include: SQL queries, DML, DDL, Oracle database architecture, instance management, control file, online redo log file, table space and data file, tables, indexes, sequence/synonym, views, user management, privileges, roles.
Prerequisite: CS420

CS524 Transaction Processing and Distributed Databases
3 credit hours (3 hours of lecture)
In a distributed database system, collection of data can be distributed across multiple physical locations. It allows better performance, increased reliability and availability, distributed query processing as well as distributed transaction management. However, it also introduces greater complexity in the design, security, maintenance, and concurrency control of the database. This course discusses the design, advantages, and challenges of distributed database systems. Topics include: principles and organization of distributed databases, distributed database design, concurrent control, reliability and commit protocols, and distributed algorithms for data management.
Prerequisite: CS520

CS540 Computer Networks II
3 credit hours (3 hours of lecture)
For students with CS440 or equivalent background, this course provides detailed coverage of advanced topics in computer networks. Topics include: OSI model, circuit switching and packet switching, LAN and IP networking, ATM and frame relay, WANs, wireless networks (802.11, GSM, and 3G), TCP/IP, VLSM and subnet, network security, IP routing protocols (RIP, OSPF, IGRP, and EIGRP), layer 2 switching and spanning tree protocol, VLAN, enterprise network design, storage area network.
Prerequisite: CS440

CS541 Internetworking with TCP/IP
3 credit hours (3 hours of lecture)
TCP/IP is the fundamental building block of the Internet. This course focuses on the TCP/IP protocol suite as an enabling technology for building scalable, multi-vendor networks, giving students a solid foundation in TCP/IP theory and application. Topics include: Internet protocol suite overview, IP addressing; subnet structuring, link-layer technologies (Ethernet, PPP/SLIP, IP fragmentation and re-assembly), routing protocols (OSPF and RIP), and supporting protocols (ARP, RARP, ICMP, IGMP, and DHCP).
Prerequisite: CS440

CS542 Network Management
3 credit hours (3 hours of lecture)
This course presents the basic principles and functionality of network management systems and introduces you to network management protocols, i.e., Simple Network Management Protocol (SNMP). Future trends in network management technologies are also discussed. Topics include: overview of network management, hands-on network design, modeling and analysis of computer networks, network operating systems, probability theory for network engineers, network security, network requirements for multimedia, SNMP, network wiring theory and practice, ATM and frame relay network modeling, network management tools, ASN.1, SNMPv1 and standard MIBs, SNMPv2, SNMPv3.
Prerequisite: CS440

CS543 UNIX Network Programming
3 credit hours (3 hours of lecture)
The course covers in detail the different inter-process communication (IPC) facilities available under the UNIX operating system to develop distributed applications in a network environment. Topics include: IPC, Pipes, FIFOs, Posix/System-V message queues, semaphores, synchronization, Posix/System-V shared memory, sockets, transport level interface (TLI), streams.
Prerequisites: CS206 and CS440

CS544 Network Administration
3 credit hours (3 hours of lecture)
This course first introduces the basics of the TCP/IP protocols and services that provide the fundamental concepts of networks. It then covers key concepts involved in network administration. Topics include: TCP/IP, addressing, network services, client & server, network installation planning, TCP/IP & UNIX kernel configuration, Ethernet & PPP interface configuration, routing table, DNS name services, POP mail servers, network file system, Sendmail, troubleshooting, security, and keeping up with changing network information.
Prerequisite: CS440

CS545 Network Security
3 credit hours (3 hours of lecture)
This is an introductory course to network security. Topics covered are: basics of cryptography, symmetric and asymmetric cryptography, basic number theory, and classical cryptosystems, public key cryptography, one-way functions, Diffie-Hellman key exchange, key distribution problem. Public-key management, Stream cipher RC4, RSA cryptosystem, El Gamal cryptosystem. Hash functions SHA-512, WHIRLPOOL, HMAC. Digital signatures, data authentication and integrity, MAC. Cryptography a la Claude E. Shannon. Data Encryption Standard, and Advanced Encryption Standard (Rijndael). Elliptic curves based cryptosystem. Crypto placements in networks, public-key infrastructure (PKI), IPsec, SSL/TLS. Secure email (PGP, S/MIME), Kerberos, secure remote logins. Wireless network security: WEP, WPA, WPA2, Bluetooth security, wireless mesh network security. Network perimeter security: firewalls. Viruses, worms, Trojan horses, web security, denial of service attacks, anti-malicious software. Intrusion detection: network-based and host-based detections, signature detections, behavioral forensics, honeypots.
Prerequisite: CS440

CS546 Network Design and Analysis
3 credit hours (3 hours of lecture)
Overview of techniques used in design and analysis of computer networks. Well known graph-theoretic techniques used in computer networks. Topics covered in this course include: Evaluation of network connectivity and its reliability, analysis of networks via queuing theory and simulation, factorial design, design of different types of networks (i.e. access and backbone networks), study of Internet traffic, structure of the Internet, general principles used in the design and evaluation of network protocols.
Prerequisite: CS440

CE550 Computer Architecture II
3 credit hours (3 hours of lecture)
This course outlines machine organization and computation structure; processor issues; ALU design; fixed and floating-point numbers and their representations; computer arithmetic algorithms; controlling unit pipelining; operation overlap; control unit look-ahead; address processing; paging and segmentation; virtual machines; memory hierarchies: cache, main, secondary and back-up memories; super scalar, reservation station; multiprocessor issues, and symmetrical multiprocessors (SMP).
Prerequisite: CE450

CE560 Embedded Computer Systems Design
3 credit hours (3 hours of lecture)
This course demonstrates how to approach the task of developing an embedded software and system for a range of applications based on practical applications. Topics include the analysis of requirements for system design, the selection of processor hardware, and off-the-shelf components for hardware and software. The use of real-time operating systems, interrupt handlers, multitasking, memory management, data conditioning and programming languages are considered. As the design is implemented in code, another set of tools is used for testing and integration. The use of source level debuggers, in-circuit emulation and choices of host versus target platforms are covered.
Prerequisite: CE460

CS560 Software Engineering
3 credit hours (3 hours of lecture)
The need to produce efficient, reliable and maintainable software requires the use of engineering principles in specification, creation, verification, validation and management. This course introduces the student to the principles of software engineering as they apply to each stage in the development of a software product. Topics include: Topics include: software process, requirement engineering, analysis methods, architectural design, component-level design, user interface design, design patterns, software quality assurance, and overview of project management.
Prerequisite: Graduate Standing

CS561 Software Design and Architecture
3 credit hours (3 hours of lecture)
The study of software architecture is the study of how software systems are designed and built. An architecture-centric approach to software development places an emphasis on design that pervades the activity from the very beginning. Design quality correlates well with software quality. This course covers key facets of software design and architecture as well as how they serve as the intellectual centerpiece of software development. Topics include: design process, connectors, modeling, visualization, analysis, implementation, deployment and mobility, security and trust, architectural adaptation.
Prerequisite: Graduate Standing

CE562 Embedded Software Design
3 credit hours (3 hours of lecture)
Embedded software is computer software which plays an integral role inside the electronics. Embedded software is usually written for special purpose hardware. This course deals with advanced embedded software programming concepts, interfacing techniques, hardware organization and software development using embedded systems. Topics covered in this course include: embedded device drivers, embedded operating systems, networking, error handling and debugging, hardware and software co-verification, DSP in embedded systems, techniques for embedded processing, development technologies and trends, and practical embedded coding techniques.
Prerequisite: CE460

CS562 Software Quality Assurance
3 credit hours (3 hours of lecture)
The requirements of high-quality, reliable, predictable software become increasingly necessary as software use continues to grow both generally and in mission or life-critical environments. As the software industry evolves, the need for qualified engineers trained in the principles, methodologies, techniques and tools of software quality assurance has grown. This course presents the specifics of software quality assurance and software testing. The course also describes how these processes fit into the software development process. Topics include: unit testing, control flow testing, data flow testing, domain testing, system integration testing, functional testing, system test design, system test planning and automation, system test execution, acceptance testing, and software reliability.
Prerequisite: CS230 or CS332 (or equivalent)

CE570 IC Design
3 credit hours (3 hours of lecture)
IC Design, or integrated circuit design, encompasses the logic and circuit design techniques to design integrated circuits. Integrated circuits consist of electronic components built into an electrical network on a monolithic semiconductor substrate by photolithography. Integrated circuit design involves the creation of electronic components. It provides the basis of VLSI design and the comprehensive coverage of key CMOS design requirements. Topics include: essential information about the design of complex and high-performance CMOS system on a chip; theoretical and practical aspects of individual fabrication steps; necessity of particular steps in order to achieve required circuit parameters; tradeoffs in optimizing device performance and IC layout techniques. Hands on labs will be provided on CADENCE tool.
Prerequisite: CE456

CE571 Computer Memory Design
3 credit hours (3 hours of lecture)
The goal of this course is to provide an introduction to the fundamental of basic theory, design implementation, and the applications of various types of computer memory systems and devices. Topics of this course include the evolution of memory devices, functions of memory systems, voltage regulator and redundancy schemes, low power design, error detection & correction, design in reliability, and the hardware implementation of a memory system.
Prerequisite: CE450

CE572 Embedded Hardware Design
3 credit hours (3 hours of lecture)
Embedded hardware is a computer hardware designed to perform one or a few dedicated functions. Embedded hardware dealing with microprocessor and microcontroller hardware and firmware including processor architecture, advanced memory and I/O systems design, multilevel bus architecture, interrupt systems. Topics covered in this course include: embedded hardware basics, logic circuits, embedded processors, embedded board buses and I/O, memory systems, timing analysis in embedded systems, microcontroller networking, digital interfacing, analog interfacing, interfacing to high current output, and diagnostics.
Prerequisite: CE460

CE596 Special Topics in Computer Engineering
3 credit hours (3 hours of lecture)
The course covers various subjects of current interest in the field of computer engineering. A student may take this course more than once if topics differ. Topic includes IC Placement and Routing Design, FPGA Design, ASIC Design, and Computer Performance Evaluations.
Prerequisite: Graduate Standing

CS596 Special Topics in Computer Science
3 credit hours (3 hours of lecture)
This course covers various subjects of current interest in the field of Computer Science. A student may take this course more than once if topics differ. Topics include: object-oriented analysis and design using UML, building E-Commerce application using XML, advanced Java programming, data mining and applications, cloud computing, mobile device programming, .NET programming, web applications, database performance and scalability.
Prerequisite: Graduate Standing

CE596-001 Digital Design with FPGA's
3 credit hours (3 hours of lecture)
Digital design using FPGAs is a very important activity in industries due to reduced cost, compared with ASIC design, and faster time-to-market. In order to design a digital system using FPGA, the designers must understand the architectures of the FPGA as well the accompanying CAD tools. This hand-on course covers the design of digital systems using Verilog and its implementation on the Xilinx Spartan FPGA. Topics covered in this course are: fundamentals of FPGA architecture, logic elements, interconnect, and I/O pins, combinational and sequential logic design inside FPGA structures, finite state machines, RAM and DSP. Hands-on practices are required.
Prerequisite: CE452

CE596-002 Parallel Computation Systems
3 credit hours (3 hours of lecture)
The course provides an introduction to the parallel system classifications, parallel processing and the parallel computation models and their algorithms. Topics include performance analysis and modeling of parallel computing, interconnection networks, vector processors, SIMD and MIMD architectures & their hybrid, systolic arrays, data flow architectures, the parallel languages and the parallelizing compilers.
Prerequisite: CE450

CE596-003 Logic Synthesis
3 credit hours (3 hours of lecture)
The aim of this course is to present logic synthesis techniques for the automation of VLSI circuits and systems. The course will broadly survey the state-of-the-art, and give a detailed study of various problems, pertaining to the logic-level synthesis of VLSI circuits and systems. Topics include various concepts and methods of logic synthesis, starting from the basics and explaining Synopsys tools and their use in synthesizing hardware design language (HDLs) into net-list. In addition, key aspects of the Synopsys design compiler such as design constraint setup, technology library, design partitioning, compilation strategies, design optimization, sub-design characterization, timing closure and analysis, signal integrity, and library management are discussed.
Prerequisite: CE352

CE596-004 ASIC CMOS Design
3 credit hours (3 hours of lecture)
This course is designed for students who intend to become ASIC designers using integrated design process. The reasons to design a custom integrated circuit are lower cost, higher performance, higher reliability, lower power, small size, and protection from reverse engineering. Topics covered in this course are: ASIC Library modeling, cell characterization, static timing analysis, place and route algorithms, design for testability, fault modeling, industry standard formats for design information interchange, and a survey of the most popular EDA tools. Industry grade design tools such as Synopsys Design Compiler, CADENCE Verilog-XL, CADENCE Silicon Ensemble, and Synplicity Synplify are used for homework assignments and projects.
Prerequisite: CE570

CE596-005 IC Layout Design
3 credit hours (3 hours of lecture)
IC layout design is the process of creating an accurate physical representation of an engineering drawing and is actually the art of drawing transistors and wires in terms of different layers. This course will provide the fundamental aspects of IC layout design such as understanding the concepts, the methodologies, the design flow, and the tools used for layout. This course also includes the intensive hands-on labs using the CADENCE tool. Topics include transistor concept, CMOS theories, basic CMOS process, CMOS logic gates, layout design rules, latch-up prevention concept, ESD theory, resistor & capacitor theory, basic bipolar technology theory, basic analog layout theory, and DRC/LVS verification.
Prerequisite: CE570

CE596-006 System On Chip (SoC) Design
3 credit hours (3 hours of lecture)
System on Chip (SoC) is composed of many functional modules such as processor, memory, digital IPs, analog/mixed signal modules, RF and interfaces on a single chip. This course will explore the challenges to design and test a System-on-Chip (SoC). Exercises will be given to design, synthesize, and simulate components using modern Computer Aided Design (CAD) tools. Topics covered in this course are: ARM based on-chip bus platform, memory, interfacing, state machine, concurrent process models, control systems, IC technologies, digital IP verification, and the trend and integration of SoC.
Prerequisite: CE570

CE596-007 Real Time Computer System
3 credit hours (3 hours of lecture)
Real time system is the study of hardware and software systems that are subject to operational deadlines from event to system. This course provides the characteristics, hardware and software aspects of real time systems; design of real time systems; application programs, files, databases and operating systems for real time systems; testing and debugging of real time systems. Topics covered in this course include: a review of embedded system design, the concept of real-time systems, real-time specification and design techniques, real-time kernels, system performance analysis, memory management, task management, time management, synchronization of inter-task communication, queuing models, real-time operating system tools for embedded systems, and real-time programming examples. Hands-on exercises are required.
Prerequisite: CE460

CE596-008 IC Placement and Routing Design
3 credit hours (3 hours of lecture)
This course will cover the fundamental of placement and routing (P&R) flow, such as the knowledge of P&R role, the generation of process technology and LEF files, and also cover the basic concepts for floor/power planning, placement, DEF files, clock tree generation, routing, RC extraction, timing analysis, and ECO flow. This course also includes hands-on laboratory session by using the Cadence SoC Encounter tool.
Prerequisite: CE570

CS596-011 Web Data Mining
3 credit hours (3 hours of lecture)
Introduction to data mining, data pre-processing; Association rules and sequential patterns; Supervised learning (classification); Unsupervised learning (clustering); Partially supervised learning; Information retrieval and Web search; Basic text processing and representation; Cosine similarity; Social network analysis; Page rank algorithm (of Google); Mining communities on the Web; Web crawling; Web Data extraction and information integration; Opinion mining and sentiment analysis and Web usage mining.
Prerequisite: Graduate Standing

CE598 Graduate Project
3 credit hours (3 contact hours)
CE598 is a supervised development, analysis, and/or research in the field of Computer Engineering. To initiate an undergraduate project, the student should set up a counseling session with a potential project instructor to define the project objective, scope, and progress check points. In general, the student should meet with his or her instructor at least biweekly and submit a formal report and presentation for discussion and evaluation. Upon completion, and with the instructor's approval, a final report shall be submitted to CE department and a formal project presentation shall be presented to the department.
Prerequisite: Graduate Standing

CS598 Graduate Project
3 credit hours (3 hours of lecture)
CS598 is a supervised development, analysis, and/or research in the field of concentration A or B. Basic requirements for a graduate project are: (1) it is an independent effort, and (2) represents either significant effort or significant technical contribution.
(To initiate an undergraduate project, the student should set up a counseling session with a potential project instructor to define the project objective, scope, and progress check points. In general, the student should meet with his or her instructor at least biweekly and submit a formal report and presentation for discussion and evaluation. Upon completion, and with the instructor's approval, a final report shall be submitted to CS department and a formal project presentation shall be presented to the department.)
Prerequisite: Graduate Standing

CE599 Independent Study
3 credit hours (3 contact hours)
Independent study tailored to a student's special interest in computer 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.
Prerequisite: Graduate Standing

CS599 Independent Study
3 credit hours (3 contact hours)
Independent study tailored to a student's special interest in computer science 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.
Prerequisite: Graduate Standing

DCE ADVANCED CONCENTRATION COURSES

CS600 Advanced Operating Systems
3 credit hours (3 hours of lecture)
This course covers advanced topics in operating system design and implementation. This course is intended to help students understand the following topics: including Microkernals, Naming, Caching Techniques, Advanced Dynamic Memory Management, Synchronization and Ordering of Events, Process Migration, Protection and Security, Fault Tolerance, Virtual Machines, and MapReduce Architecture. In addition, the course is intended to help students improve their presentation skills and formal writing skills. Students will be divided into sets of small groups. Each group will be presenting and writing a paper covering one of set of popular Distributed Operating Systems in the research community. List of Journal, Conference, and University Technical Reports, for both class discussions, and the group presentation/papers, are provided at the end of course syllabus. The final examination will cover papers covered in the class as well as in the group presentations.
Prerequisite: CS500

CS602 Advanced Design and Analysis of Algorithms
3 credit hours (3 hours of lecture)
This course focuses on effective key algorithms used in graph and network applications. The course covers in-depth algorithmic design, analysis and programming implementation aspects and requires students' hands-on experience and research.
Prerequisite: CS502

CS620 Advanced Database System and Application
3 credit hours (3 hours of lecture)
This course covers advanced topics in Database system design and implementation. The course is intended to help the students understand the following advanced topics including: Storage and Indexes, Query Processing, Query Optimization, Concurrency Control, Transaction Management, Recovery, Data Warehouse, OLAP and Data Mining, Parallel and Distributed Database, and XML and XQuery. In addition, the course is intended to help students improve their presentation skills and formal writing skills. Students will be divided into sets of small groups. Each group will be assigned a topic from the advanced research topics in the research community listed below. Each group will write a formal paper about their assigned topic and give a presentation to the class describing the problem, what others have discovered, and the students' own views. List of publications in the relevant topics are provided at the end of course syllabus. The students are encouraged to research additional published papers on their topic. The final examination will cover both material covered in the class as well as the presentations given by the different groups in the class.
Prerequisite: CS520

CS621 Distributed and Parallel Database Systems
3 credit hours (3 hours of lecture)
This course covers fundamental and current research topics in the design, implementation, and evaluation of parallel and distributed database systems. The focus will be on the systems software and parallel programming systems, but some hardware issues will also be covered. Topics will include Parallel Computers and Algorithms, Message-Passing Computing, Embarrassingly Parallel Computations. Partitioning and Divide-and-Conquer Strategies, Pipelined Computations, Synchronous Computations, Load Balancing and Termination Detection, Programming with Shared Memory, Distributed Shared Memory Systems and Programming, Parallelization Strategies, Distributed Shared Memory, and related ideas, System Area Networks (SAN), and Operating System Support. Most topics will be on the practical and hands-on aspects of parallel programming.
Prerequisite: CS520 (or equivalent)

CS622 Advanced Business Intelligence and Analytics
3 credit hours (3 hours of lecture)

This course covers advanced topics in Business Intelligence (BI) and Analytics with hands-on experience. Topics covered include: (1) Data Warehouse architecture including Star schema, and On Line Analytical Processing (OLAP), (2) The BI stack using Pentaho as a case study and covering meta-data, reporting tools, Visualization, (3) Data mining algorithms, including classifications, clustering, mining frequent patterns and others and how this technology relates to Business Intelligence, (4) Data Mining using WEKA as a case study and covering classification, clustering, and mining Frequent Patterns, (5) Overview of the R Statistical Programming Language for Analytics support. Students will be divided into sets of small groups to practice the new computing skills with hands-on experience. Each group will develop one application with data mining using WEKA and another project with Business Intelligence using Pentaho. The Pentaho-based project replaces the Final. In addition, the course will include a midterm that covers the lecture material covered in the class.
Prerequisite: CS520

CS640 Advanced Network System Development
3 credit hours (3 hours of lecture)

This course puts a major emphasis on router/switch architectures and algorithms. We will study algorithms used by modern routers to do forwarding, address lookups, switching, scheduling, flow classification, flow monitoring and measurements, etc. The course begins by discussing the networking bottlenecks that are most often encountered at four disparate levels of implementation: Protocol, OS, Hardware, and Architecture. The rest of the course is devoted to a systematic application of the optimization principles to bottlenecks found specifically in endnodes, interconnect devices, and specialty functions such as security and measurement that can be located anywhere along the network.
Prerequisite: CS540

CE650 Advanced Computer Architecture
3 credit hours (3 hours of lecture)

This is an advanced level computer architecture course that will address the following issues: (1) Instruction level parallelism, (2) Advanced techniques in memory hierarchy design, (3) Advanced Input/Output analysis, (4) Multimedia processing and (6) Security support. These are the salient research topics in the field of computer architecture.
Prerequisite: CE550

CE651 Parallel Computer Architecture
3 credit hours (3 hours of lecture)

For a variety of reasons, parallel computer architecture has recently become one of the most challenging and important areas in Computer Engineering and Software Development. It is therefore very important for the students to learn the concepts of parallel computing hardware design and software programming paradigm. The topics covered in this course include: shared memory multiprocessors, scalable processors, cache coherence, snoop based multiprocessor design, HW/SW tradeoffs, interconnection network, VLIW architecture and latency tolerance.
Prerequisite: CE450

CS660 Advanced Software Engineering
3 credit hours (3 hours of lecture)

This course is a graduate-level software engineering course. With a basic knowledge of software engineering principles, we will explore advanced specification and design in UML, component-based software engineering, rapid development processes and techniques, advanced validation and verification methods, configuration management, and other advanced topics.
Prerequisite: CS560

CE671 Advanced VLSI Physical Design
3 credit hours (3 hours of lecture)

This course covers all aspects of physical design such as VLSI design cycle, physical design cycle, physical design and packaging styles, fabrication process for VLSI devices, process impacts on physical design, basic algorithms for floor planning, partitioning, placement, global routing, detailed routing, clock tree synthesis, and also topics for physical design automation, timing/power/delay analysis, and design verification.
Prerequisite: CE596-005

CE672 Advanced ASIC Chip Synthesis
3 credit hours (3 hours of lecture)

This course introduces the advanced concept and techniques used toward deep-sub-micro Application-Specific Integrated Circuit (ASIC) design. Student will be trained to design a high-level micro-processor core by using logic synthesis with designated advanced cell library, and to close timing on static timing tools. Additional trainings may include design vs. compiled circuit checking with Formality, and the use of Signal Integrity.
Prerequisite: CE570

CE697 Research Seminar
1 credit hour (1 hour of lecture)
This course is designed for doctoral students who have passed the qualifying examination and are preparing for research work. The preparation of research plan and how to write a research proposal will be covered in this course. The students will be exposed to a series of seminars given by invited speakers from academics, industry and business sectors with broad range of topics to advance their knowledge in the DCE concentration area.
Prerequisite: Doctoral Candidate

CE698 Doctoral Research I
6 credit hours (6 hours of lecture and discussion)
This course is designed for doctoral students after advancing to doctoral candidacy to pursue their research interests. The candidate is advised to choose a research topic and prepare the research proposal that is approved by the Doctoral Research Committee. The candidate is required to present the research results to the oral defense committee after completing the thesis work.
Prerequisite: Doctoral Candidate

CE699 Doctoral Research II
6 credit hours (6 hours of lecture and discussion)
This course is designed for doctoral students after advancing to doctoral candidacy to pursue their research interests. The candidate is advised to choose a research topic and prepare the research proposal that is approved by the Doctoral Research Committee. The candidate is required to present the research results to the oral defense committee after completing the thesis work.
Prerequisite: Doctoral Candidate

BUSINESS ADMINISTRATION UNDERGRADUATE COURSES

BA300 Fundamentals of Accounting
3 credit hours (3 hours of lecture)
This course covers basic accounting theory and techniques. Principles are applied to accumulating and summarizing financial data; critical analysis and interpretation of financial statements. Fundamentals of accounting concepts designed for students desiring a general knowledge of accounting. Emphasis placed on the use and analysis of accounting data.
Prerequisite: None
Co-requisite: BA300L

BA300L Fundamentals of Accounting Lab
1 credit hour (2 hours of lab)
This course is designed for concurrent enrollment in BA300 in order to provide and enhance hands-on experiences of accounting principles. Popular accounting software tools will be used to perform tasks such as homework assignments and projects.
Co-requisite: BA300

BA301 Intermediate Accounting I
3 credit hours (3 hours of lecture)
The course will cover and in-depth study of financial accounting concepts and practices, including information processing, valuation, statement presentation, and analysis. Emerging issues and professional accounting standards are also studied.
Prerequisite: BA300
Co-requisite: BA301L

BA301L Intermediate Accounting I Lab
1 credit hour (2 hours of lab)
This course is designed for concurrent enrollment in BA301 in order to provide and enhance hands-on experiences of accounting principles. Popular accounting software tools will be used to perform tasks such as homework assignments and projects.
Co-requisite: BA301

BA302 Accounting for Management Decision Making
3 credit hours (3 hours of lecture)
The course teaches the use of accounting information for managerial planning, control, and decision-making. Topics include costing systems, cost estimation and analysis, operational and capital budgeting decisions.
Prerequisite: BA300
Co-requisite: BA302L

BA302L Accounting for Management Decision Making Lab
1 credit hour (2 hours of lab)
This course is designed for concurrent enrollment in BA302 in order to provide and enhance hands-on experiences of accounting principles. Popular accounting software tools will be used to perform tasks such as homework assignments and projects.
Co-requisite: BA302

BA320 Cash Management
3 credit hours (3 hours of lecture)
The course covers principles of cash management in a corporate finance setting with a focus on financial accounting, the collection cycle, electronic commerce, information technology, investment strategies, debt, international business effect cash management, and yield curve analysis.
Prerequisite: BA300

BA330 Introduction to Financial Management
3 credit hours (3 hours of lecture)
The course covers theory and practices that underlie the financial manager's decision-making process, Capital investment analysis, capital structure, dividend policy, risk and return, and market valuation of the firm.
Prerequisite: None

BA352 Discovering Business
3 credit hours (3 hours of lecture)
This course provides students with an overview of today's business environment. They will learn about a global working perspective that includes the role of industry and its impact on our culture to the various key business functions and how they interact in the competitive and ever-changing economy. Emphasis is on the real world and practical application of concepts and theories through lecture, discussion, and group interactions.
Prerequisite: None

BA354 Negotiation
3 credit hours (3 hours of lecture)
The course covers principles and practice in business negotiations. Topics include negotiating concepts, strategies, situational applications, and practice in applied techniques. Situations range from negotiation in sales and customer relations to employee management and career development.
Prerequisite: None

BA380 Introduction to Quantitative Methods in Business
3 credit hours (3 hours of lecture)
The course includes a survey of linear programming, transportation models, CPM/PERT, deterministic inventory models, and decision analysis, with emphasis on problem formulation and solving using these techniques.
Prerequisite: BA330

BA401 Intermediate Accounting II
3 credit hours (3 hours of lecture)
This course will cover in-depth study of advanced financial accounting concepts and practices, measurement, valuation, disclosure, and analysis. It will also include research of emerging issues and professional accounting standards.
Prerequisite: BA301
Co-requisite: BA401L

BA401L Intermediate Accounting II Lab
1 credit hour (2 hours of lab)
This course is designed for concurrent enrollment in BA401 in order to provide and enhance hands-on experiences of accounting principles. Popular accounting software tools will be used to perform tasks such as homework assignments and projects.
Co-requisite: BA401

BA410 Enterprise Information Systems
3 credit hours (3 hours of lecture)
This course focuses on enterprise-level information systems, technologies, and infrastructures used by large organizations. This course will provide students with the fundamental knowledge associated with the managerial, technological, and organizational issues of enterprise-wide information systems. The course will also introduce personnel issues related to such enterprise-wide information systems and information systems that extend beyond the traditional organizational boundaries, including project management of a team. Course topics include: introduction to enterprise systems; enterprise systems architecture; systems integration; enterprise-wide information systems development life cycle; implementation strategies; software and vendor selection; pre- and post-implementation; project management (PM); organizational change and business process management systems (BPM); global, ethics, and security management issues; supply chain management systems (SCM); and customer relationship management (CRM) systems, SAP ERP or ORACLE E-Business Suite will also be introduced in this course.
Prerequisite: CS200
Co-requisite: BA410L

BA410L Enterprise Information Systems Lab
1 credit hour (2 hours of lab)
This course is designed for concurrent enrollment in BA401 in order to provide and enhance hands-on experiences of information system. Popular ERP software tools, such as SAP or ORACLE E-Business Suite will be used to perform tasks for homework assignments and projects.
Co-requisite: BA410

BA430 Introduction to Corporate Finance
3 credit hours (3 hours of lecture)
This course discusses basic principles of finance and provides practical tools for financial decisions and valuation in a corporate context. The course starts by applying asset pricing tools to evaluate projects and examine the capital structure decision, and how it may affect firm value. This course also studies how firms raise capital, resolve agency conflicts, set dividend policies, and analyze financial issues in mergers and acquisitions.
Prerequisite: BA330

BA431 Introduction to Investment Analysis
3 credit hours (3 hours of lecture)
The course is an introduction to security analysis and portfolio management. Topics include types of financial markets, valuation of financial assets and diversification for portfolio management.
Prerequisite: BA330

BA432 Financial Reporting and Analysis
3 credit hours (3 hours of lecture)
The course focuses on financial accounting, which provides financial information primarily for decision-makers outside the entity. This financial information is provided to external decision-makers primarily by means of general-purpose statements of operating results, financial position, and cash flow. The course concentrates on the application of accounting theory, standards, principles, and procedures to business transactions. The fundamental rationales for the various aspects of financial accounting are stressed.
Prerequisite: BA430

BA440 Management Principles
3 credit hours (3 hours of lecture)
This course presents a thorough and systematic coverage of management theory and practice. It focuses on the basic roles, skills and functions of management, with special attention to managerial responsibility for effective and efficient achievement of goals. Special attention is given to social responsibility, managerial ethics, and the importance of multi-national organizations.
Prerequisite: Upper Division Standing

BA442 Human Resource Management
3 credit hours (3 hours of lecture)
This course provides a framework for understanding and thinking strategically about the management of human resources in organizations. Topics include: recruitment and selection; compensation and benefits; promotion; training; performance appraisal; retention and turnover; and selected public policy issues pertaining to employment (e.g. discrimination and affirmative action). Special topics covered in this course include strategic human resource planning, job analysis and work design, legal aspects of strategic HRM, recruitment and selection, training and development, performance appraisal, strategic compensation and benefits decisions, and employee rights and disciplines, etc. SAP Netweaver (HCM) ERP tools or ORACLE E-Business Suite will be utilized in this course.
Prerequisite: BA410

BA445 Organizational Theory & Behavior
3 credit hours (3 hours of lecture)
This course offers a survey of behavior within and outside of organizations. It covers issues of individual behavior, interpersonal communication and influence, group dynamics, inter-group relations, complex organizational structure and behavior, and relations between organizations and environments. The course addresses the ways in which organizations and their members affect one another. Issues of motivation, task design, leadership, communication, organizational design, and innovation will be analyzed.
Prerequisite: Upper Division Standing

BA452 Operations Management
3 credit hours (3 hours of lecture)
This course will provide students with methodologies and skills of how to manage the efficient transformation of inputs into outputs to suitably satisfy customers. Inputs are materials, labor, capital and management. Outputs are products or services, which customers often pay for daily control of business processes. Topics covered include: explanation of the role of operations and interaction with other activities of a firm, how operations affect people and society, excitement and creativity associated with managing operations, analyzing operation processes from various perspectives including efficiency, responsiveness, and productivity. Student will learn useful analytical skills and tools, such as SAP ERP or ORACLE E-Business Suite in studying operations in a company.
Prerequisite: BA410

BA460 Marketing Management
3 credit hours (3 hour of lecture)
This course analyzes the substantive and procedural aspects of marketing and sharpens skills for critical analytical thinking and effective communication. Emphasis will be placed on the evolution of contemporary marketing strategies and the elements of marketing: customer analysis, pricing, distribution channels, competitive analysis, and branding. The development of a marketing plan along with segmentation analysis will be analyzed. The changing role of the customer and planning strategies will also be addressed. The class provides students a forum for presenting and defending their own recommendations and critically examining those of others. SAP Netweaver (CRM) ERP tools or ORACLE E-Business Suite will be used to study the marketing issues and planning.
Prerequisite: Upper Division Standing

BA461 Business Communications
3 credit hours (3 hours of lecture)
Communication is an essential component in every management task. One objective of this course is to provide a framework with which 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.
Prerequisite: Upper Division Standing

BA462 Consumer Behavior
3 credit hours (3 hours of lecture)
The course covers survey of theoretical foundations of consumer decision-making; in-depth analysis of contemporary factors influencing consumer behavior in social, cultural, and psychological dimensions. Assignments include extensive outside classroom readings, case applications, and student projects.
Prerequisite: Upper Division Standing

BA463 Sales Management
3 credit hours (3 hours of lecture)
This course is offered for technical and business professionals who want to learn the buying and selling processes that corporations use in business-to-business transactions. Emphasis is on the concept of solution selling, improving value, and meeting the needs of clients through effective questioning, analysis, sales planning and presentations. Students learn the major phases of the value added sales process, setting sales objectives for each phase, analyzing client needs, designing a value-added sales approach, presenting solutions, and handling objections.
Prerequisite: Upper Division Standing

BA464 Marketing & e-Commerce
3 credit hours (3 hours of lecture)
This course provides an 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.
Prerequisite: Upper Division Standing

BA470 International Marketing
3 credit hours (3 hours of lecture)
This course teaches systematic treatment of marketing on a global scale. Topics include the analysis of global market environments, targeting and entry strategies for global markets, sourcing and global production strategy, the global marketing mix, and strategies to manage global marketing. The perspective of the course is from a managerial point of view. This course will prepare students to successfully organize global opportunities and efficiently handle global threats in domestic markets.
Prerequisite: BA460

BA481 Business Law
3 credit hours (3 hours of lecture)
This class is intended to inform and educate business students of the legal requirements and risks associated with managing, owning and operating a high tech business in today's global economy.
Prerequisite: Upper Division Standing

BA496 Special Topics in Business Administration
3 credit hours (3 hours of lecture)
This course provides an opportunity for a faculty member to teach a relative new subject that is not listed in the catalog, but is greatly relevant to business administration. It may consist of lectures, reading assignments, and a project presentation. Topics are determined by the instructor.
Prerequisite: Upper Division Standing

BA499 Independent Study
1-3 credit hours (1-3 contact hours)
Independent study is tailored to a student's special interest in business administration 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.
Prerequisite: Upper Division Standing

BUSINESS ADMINISTRATION GRADUATE COURSES

BA500 Financial Accounting
3 credit hours (3 hours of lecture)
This course is intended to develop students' ability to understand and use financial statements. It is oriented toward the use of financial accounting data. It places an emphasis upon the reconstruction of economic events from accounting reports. Software tools, such as SAP Neteaver ERP Financials and Accounting or ORACLE Financials E-Business Suite will be utilized in this course.
Prerequisite: BA300

BA501 Intermediate Financial Accounting
3 credit hours (3 hours of lecture)
This course is an in-depth study of the principles and procedures underlying external financial reporting. Topics to be covered are review of the accounting cycle and preparation of financial statements. It analyzes accounting for assets, liabilities, revenues, and equities.
Prerequisite: BA500

BA502 Corporate Accounting
3 credit hours (3 hours of lecture)
This course will enhance the ability of the students to reconstruct economic events from corporate financial statements. It will help in developing a set of principles and concepts, which provides a framework for analyzing various accounting and financing issues.
Prerequisite: BA500

BA503 Advanced Financial Accounting
3 credit hours (3 hours of lecture)
This course provides students with the application of accounting principles in complex business settings. The primary emphasis of the course is directed to alternative rules and principles used to measure and report financial data with respect to corporate business organizations. In general, the course is emphasized more with the production of financial information and statements for external users than the use of financial information by internal users. Topics to be covered include: accounting for branches, business combinations, consolidated financial statements, segment reporting and accounting for partnership and transactions in foreign currency, and translation of financial statements reported in foreign currency.
Prerequisite: BA500

BA504 Tax Accounting
3 credit hours (3 hours of lecture)
This course covers the fundamentals of federal taxation as they apply to tax entities including individuals, corporations, and partnerships. Primary emphasis is on the taxation of individuals with some issues on business activities including property transactions, the taxation of corporations and flow-through tax entities. The course includes expanded coverage of tax research and planning as well as ethical responsibilities in tax practice.
Prerequisite: Graduate Standing

BA505 Managerial Accounting
3 credit hours (3 hours of lecture)
Managerial accounting studies the generation, communication, and interpretation of internal information, both financial and non-financial, for operational and strategic decision-making purposes. In this course we will study how managers can use this information to implement plans and improve the process of providing goods and services to customers. We will also see that the accounting information generated for financial reporting purposes is not particularly helpful when managers need to make decisions. The scope of the course embraces the use of accounting information for planning and control purposes in both operational and strategic decision-making.
Prerequisite: BA500

BA506 Auditing
3 credit hours (3 hours of lecture)
This course is designed to provide students with fundamental knowledge of Generally Accepted Accounting Principles (GAAP), the audit processes, audit standards and analytical skills to become an auditor. Topics to be covered include: Overview of Auditing, Assurance and Financial Statement Auditing, Auditing Environment, Risk Assessment and Materiality, Audit Evidence and Documentation, Audit Planning and Audit Tests, Audit Sampling, Audit Revenue and Expenditure, Audit for Fraud, Internal Control, Audit of Acquisition and Payment Cycle, Audit Financial and Investment Processes, Report on Audit Financial Statement, Professional Conduct and Ethics, Quality Control and Attestation.
Prerequisite: BA500

BA514 Business Intelligence and Data Warehousing
3 credit hours (3 hours of lecture)
This course is designed for graduate students (majoring in either Computer Science or Business) who wish to become familiar with Data Warehouse and Business Intelligence technology and its role in the enterprise. Topics covered include: Data Warehouse design, development, and management, Data pre-processing and cleansing, Business analytics (OLAP), cubes, reports, and predictive analytics. Principals for data, text and web mining for Business Intelligence, mining frequent patterns including associations, correlations, classification and prediction. In addition, the course covers cluster analysis for unstructured data, and future trends in Business Intelligence. SAP Netweaver (CRM) ERP tools or ORACLE E-Business Suite will be used in this course.
Prerequisite: BA515

BA515 Enterprise Resources Planning (ERP)
3 credit hours (3 hours of lecture)
This course covers concepts in enterprise resource planning (ERP). The main focus of this course is to show how ERP systems integrate business processes across functional areas and support business management and performance analysis. For example, the sales order process includes recording an order, possibly scheduling production or purchases to fill the order, scheduling delivery, invoicing the customer and recording payment, financial accounting, production and material management (supply chain management), marketing and human resources are functional areas affected by the sales order process and an ERP system integrates the flow of data and documents from one functional area to the next throughout the process. This course will also examine how an ERP system is utilized for businesses applications and will evaluate the benefits and costs of implementing an ERP system. Example software, such as SAP or ORACLE E-Business Suite, will be used extensively to illustrate how ERP systems work.
Prerequisite: BA410

BA521 Macroeconomic Theory
3 credit hours (3 hours of lecture)
This course analyzes what determines 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 in the aggregate, how to interpret, analyze, and operate within a changing macro-economic environment.
Prerequisite: Graduate Standing

BA522 Microeconomics for Business Decisions
3 credit hours (3 hours of lecture)
This course covers analysis of managerial economics for demand, cost, production and pricing at the individual firm or industry's level under market structure and the regulatory environment. Emphasis will be placed on applications as well as theory.
Prerequisite: Graduate Standing

BA526 Time Series Data Analysis
3 credit hours (3 hours of lecture)
This course is designed for graduate students in business, science and engineering fields to gain knowledge of time series data analysis and forecasting methods. The smoothing procedures and regression with time series errors to reveal the underlying components of the data which plays an important role in forecasting and inference are covered in this course. Methods of estimating assessing goodness-of-fit are also included. Important topics covered in this course are: ARCH and GARCH models which are widely used in the financial time series modeling, ARMA and ARIMA forecasting processes, stationary processes, multivariate time series and state space models and generalized state-space models with applications to time series of count data.
Prerequisite: BA585

BA528 Quantitative Research and Analysis
3 credit hours (3 hours of lecture)
This course is designed for advanced graduate students in Science, engineering or Business fields to introduce them to the concepts and methods of regression analysis for discovering the relationships among variables. Regression methods can be used to build up system models to predict their behavior. It also can be utilized to provide a direction in selecting best regression model, analyzing fitting bias and variances. Topics covered in this course are: Simple Linear Regression Models, Diagnostics and Remedial Measure, Multiple Linear Regression Models, Transformations in Multiple Linear Regression, Selection of Regressors, Logistic Regression, Generalized Linear Models, Maximum Likelihood Estimation, Time Series Regression, Generalized Least Square Regression, Robust Regression and Non-linear Regression.
Prerequisite: BA585

BA530 Financial Management
3 credit hours (3 hours of lecture)
This course provides an overview of the basic areas of financial management. It develops basic skills in valuing cash flows, preparing financial plans/budgets, pricing financial assets and evaluating the firm's capital structure, cost of capital, working capital, dividend policies, and financing and investment decisions. It also introduces the structure, markets and regulatory factors within the financial system.
Prerequisite: BA330 (or equivalent)

BA531 Corporate Finance
3 credit hours (3 hours of lecture)
This course addresses the principles underlying alternative financial arrangements for business operation; capital budgeting; minimum rates of return for capital investments; capital structure; financial analysis and planning; short, intermediate, and long-term financing; and the market for corporate control.
Prerequisite: BA530

BA532 Financial Modeling and Analysis
3 credit hours (3 hours of lecture)
This course is designed to provide experience building financial models, such as cash flow models, financial planning models, simulation models, and optimization models as well as forecasting techniques that will assist financial managers to make financial decisions. Topics to be covered include: Financial Planning and Modeling, Cash Flow Forecasting, Monte Carlo Simulation, Financial Statement Simulation, Time Trend Forecasting, Value Modeling, Acquisitions and Dispositions, and Working Capital Modeling.
Prerequisite: BA530

BA533 Investment Management
3 credit hours (3 hours of lecture)
The course covers the fundamentals of investment management, including the functioning of public and private security markets and the pricing of money market, fixed income, and equity securities. Develop tools to evaluate the value of financial securities and the factors to determine the value of companies -- both publicly listed and private equities. The focus includes quoted and private equity investments and entrepreneurial finance.
Prerequisite: BA530

BA534 Portfolio Management
3 credit hours (3 hours of lecture)
This course provides students with the opportunity to apply investment analysis and portfolio management. Students learn the perspectives and techniques associated with portfolio management and security analysis and apply their knowledge by analyzing stocks and other investments. The course will focus on the application of financial theory to the issues and problems of investment management. Topics to be covered include: portfolio optimization and asset allocation, the theory of asset pricing models and their implications for investment as well as techniques for evaluating investment management performance. The course will build upon the analytical skills developed in Investment Management.
Prerequisite: BA530

BA535 Derivatives and Risk Management
3 credit hours (3 hours of lecture)
To develop a sound knowledge of futures and option markets and a better understanding of the basic function of derivatives in risk management, and theoretical and practical applications in derivatives. Topics to be covered included: forwards; futures; swaps; options; hedging strategies; the random walk (Brownian motion) model of stock prices; the Black-Scholes analytical model and the binomial models. Financial risk management techniques are emphasized.
Prerequisite: BA530

BA536 International Financial Management
3 credit hours (3 hours of lecture)
This course provides students with the background about the international financial systems and a framework for making corporate financial decisions in an international context. Topic areas include: how to measure currency exposure; financial and operational means to manage currency risk; the decision to undertake a global financing program; exchange and capital market; capital budgeting analysis for foreign direct investment; strategic considerations in the globalization process; and how to value target firms for cross-border acquisitions.
Prerequisite: BA530

BA537 Financial Statement Analysis
3 credit hours (3 hours of lecture)
This course combines theoretical concepts underlying the presentation of financial statements with the practical technique of financial analysis. Topics include accounting processes; examination of the components of the balance sheet, the income statement and the statement of cash flow; application of the various quantitative techniques of financial analysis, such as ratio interpretation and EPS evaluation; the meaning and significance of the auditor's opinion, and current SEC reporting regulations. SAP Netweaever ERP Financials and Accounting or ORACLE Financials E-Business Suite will be used in this course.
Prerequisite: BA530

BA541 Entrepreneurship
3 credit hours (3 hours of lecture)
This course is offered for those planning to undertake an entrepreneurial career in starting and building a business or an international company in the high-tech area. A special effort is made to take advantage of SVU's proximity to the entrepreneurial community in Silicon Valley and its reach to international business world. Developing a business plan for a new company in the field of technology is an integral part of the course.
Prerequisite: Graduate Standing

BA543 International Management
3 credit hours (3 hours of lecture)
This course examines managerial behavior within a cross-cultural environment. It analyzes problems confronting managers in international operations, the impact of international forces on a firm's future, establishing and conducting international transactions. The course is a blend of conceptual material and case analyses.
Prerequisite: Graduate Standing

BA544 Project Management
3 credit hours (3 hours of lecture)
This course offers a study of project management history, maturity, culture, methodologies, processes, leadership and strategic planning. It briefly traces the development of project management, and then discusses the 5 processes that must be done for project success: Define, Organize, Execute, Control and Close. It studies the best methods and processes of project management that assure success within these 5 processes. The strategic implications of projects will be studied with respect to their 'fit' with the organizational vision. SAP Netweaver ERP Project Management (PM) tools or ORACLE E-Business Suite will be extensively used in this course.
Prerequisite: BA515

BA548 Managing Innovation and Technology
3 credit hours (3 hours of lecture)
This course explores the connections between core business strategy and successful technology and innovation management. Students develop an understanding of how external networks, the internal organization and processes, and a culture of self-learning combine to enable an organization to stay on the leading edge of innovation and technology management. Internal processes, systems, structural design, product development, and project management are explored, as well as corporate venture capital investing in emerging companies, acquiring or licensing technology, and formation of alliances and joint ventures for technology development. Finally, students gain an appreciation for how successful technology leaders build entrepreneurial cultures that thrive on creativity, self-learning, and the ability to anticipate and adapt to a rapidly changing future.
Prerequisite: BA452

BA552 Operational Management
3 credit hours (3 hours of lecture)
Operations Management is the systematic direction and control of the processes that transform inputs into finished goods or services. Operations produce and deliver the product. Operational issues include designing, acquiring, operating and maintaining the facilities and processes, purchasing raw materials, controlling and maintaining inventories and providing proper labor needed to produce a good or service so that customers' expectations are met.
This course is designed to provide graduate students in engineering or management area with the knowledge of operating practices and models in both manufacturing and service oriented firms. It is also intended to provide the students with sufficient knowledge to make informed business decisions and to introduce terms and concepts for communications with operational personnel.
Prerequisite: Graduate Standing

BA553 Business Process Management
3 credit hours (3 hours of lecture)
Business Process Management (BPM) involves managing the processes an organization uses to develop, produce and provide its products and services. Enhancing an organization's business process management capability is recognized by many national and international authorities as an effective strategy for improving performance. This course will cover the theory and practice of BPM and provide participants with an understanding of three primary BPM capability areas Process Enterprise Management, Process Definition and Process Improvement. The course will include a project to develop a process description for a business process. Process Enterprise sub-topics include establishing the organization's process network, linking process measures to organizational performance measures, monitoring the network of processes, aligning process improvements with the organization's strategy, and improving the organization's process network. Process Definition sub-topics will include establishing process objectives, preparing systems diagrams, developing process flow charts and associated activity tables. Process Improvement sub-topics will include establishing and utilizing process measures, identifying and prioritizing process problems, undertaking root cause analysis of process problems, identifying and prioritizing possible process improvements and implementing process improvements. SAP Netweaver (BPM) ERP tools or ORACLE E-Business Suite will be used in this course.
Prerequisite: BA515

BA554 Logistic Management
3 credit hours (3 hours of lecture)
The purpose of this course is to introduce graduate students with basic concepts and knowledge in Logistic Management along with providing students with skills in using ERP tools, such as SAP (Logistics) or ORACLE E-Business Suite. These include the management of core logistics functions, cost integration, and supply chain management. It also includes relationships with suppliers, customers and other firm functions such as manufacturing and finance. We will approach issues from a dual perspective of managing logistics to reduce cost and to create competitive advantage.
Prerequisite: BA515

BA556 Supply Chain Management
3 credit hours (3 hours of lecture)
This course will enable students to develop the ability to conceptualize, design, and implement supply chains aligned with product, market, and customer characteristics. Business competition is now between supply networks rather than individual corporations. Managing the flow of products, information, and revenue across supply chains differentiates the ability of supply networks to fulfill customer needs. Students also will use SAP ERP (SCM) software tools or ORACLE E-Business Suite to develop the ability in evaluating how information flows can substitute for the stock of physical resources, such as inventory, and why such systems succeed or fail. They assess how internet technologies, dynamic markets, and globalization are impacting supply chain strategies and practices, including logistics, digital coordination of decisions and resources, inventory and risk management, procurement and supply contracting, product and process design, and revenue management.
Prerequisite: BA515

BA565 Marketing Research
3 credit hours (3 hours of lecture)
This course emphasizes the development of various research designs used in contemporary marketing. It utilizes contemporary case studies that incorporate both qualitative and quantitative approaches. The relationship between marketing research and the challenges of research in the real world will be stressed. The key components of a marketing research project will also be discussed including sampling, data analysis, and recommendations. Critical thinking and creativity will be encouraged.
Prerequisite: BA460

BA566 High-Tech Marketing
3 credit hours (3 hours of lecture)
The course presents in-depth coverage of issues relating to the marketing of high technology products and innovations. This includes the ability to analyze market driven strategies as well as evaluate product portfolios, technology platforms and distribution networks. Assignments include extensive outside classroom readings, case applications, and a group marketing plan and presentation.
Prerequisite: BA460

BA568 Customer Relationship Management
3 credit hours (3 hours of lecture)
Customer Relationship Management (CRM) links the relationship between suppliers, technology and customers which provides the infrastructure for customer support in the modern e-business environment. CRM is the overall process of building and maintaining profitable customer relations by delivering value and satisfaction to the customer. The integrated information from sales, marketing and service delivery are working together to improve a business. This course provides students with working knowledge of fundamentals of CRM, strategic marketing planning, creative communications, implementation of data and technology in CRM system, statistical analysis techniques of customer data, quantify customer orientation and develop relationship-driven CRM. ORACLE E-Business Suite of CRM or SAP ERP tools (CRM) will be used for students' hands-on experiences and projects.
Prerequisite: BA515

BA585 Statistical Methods for Business Research
3 credit hours (3 hours of lecture)
This course is designed for graduate students studying for a business major which utilize probability and statistical analysis methodologies to managerial decision problems based on available business data collected. Topics include: Descriptive Statistics, Exploratory Data Analysis, Probability Theory, Sampling Techniques, Correlation Analysis, Interval Estimation, Maximum Likelihood Estimation, Statistical Hypothesis Testing and Inference, Analysis of Variance, and Statistical Quality Control.
Prerequisites: MATH210 and MATH212

BA596 Special Topics in Business Administration
3 credit hours (3 hours of lecture)
This course provides an opportunity for a faculty member to teach a relative new subject that is not listed in the catalog, but is greatly relevant to business administration. It may consist of lectures, reading assignments, project presentation. Topics are determined by the instructor.
Prerequisite: Graduate Standing

BA597 Master's Thesis
6 credit hours (6 contact hours)
This course prepares graduate students with an opportunity to conduct independent research relating to their interests. A written version of the thesis will be submitted to the thesis committee for review and comments after course completion.
Prerequisite: Graduate Standing

BA598 MBA Project
3 credit hours (3 contact hours)
The course will be arranged by the project Advisor. Students will conduct independent research of an approved topic in business administration, prepare a technical report, and defend it before a faculty advisor.
Prerequisite: Graduate Standing

BA599 Independent Study
3 credit hours (3 contact hours)
Independent study tailored to a student's special interest in business administration 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.
Prerequisite: Graduate Standing

CURRICULAR PRACTICAL TRAINING (CPT)

Controlling regulation: 8 C.F.R. §214.2(f)(10)(i).

"An F-1 student may be authorized by the D.S.O. to participate in a curricular practical training program that is an integral part of an established curriculum. 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."

CPT491 Curricular Practical Training Project I
3 credit hours
Curricular Practical Training (CPT) for undergraduate students. Curricular practicum is intend for students to demonstrate learned theory from their coursework in which students are able to apply what they have learned to the real-world work setting and research experience. These kinds of practical experiences assist enhancing students' knowledge in the field before graduation from their alternative work and study, internship, and cooperative education. CPT is a part-time (20 hours per week) basis project and offered by specific sponsoring employers through the establishment of an agreement to collaborate with the university. This course is considered to be an integral part of an established curriculum. To be eligible for taking CPT, students must have completed at least one trimester of coursework, which is required in their degree program and obtained a Grade Point Average (GPA) 3.0 or above. Students must receive approval by an academic advisor. Students must obtain a corporate agreement and an offer letter from the internship, which outlines the arrangement between the institution and the university. Students must have specific learning objectives to fulfill the requirements of the course and evaluation criteria of CPT. In other words, students who participate in CPT must relate their work to their field of study. International students must follow additional rules required by the U.S. Immigration and Customs Enforcement. Students who need to extend their CPT in the following trimester will have to enroll in one course and make a payment for one course (3 credit hours) tuition. Students are required to submit a report after they complete their CPT for the purpose of evaluation. Failure in this course will prevent students to take any curricular practicum course in the future.
Prerequisite: Upper Division Standing

CPT492 Curricular Practical Training Project II
3 credit hours
Curricular Practical Training (CPT) for undergraduate students. Curricular practicum is intend for students to demonstrate learned theory from their coursework in which students are able to apply what they have learned to the real-world work setting and research

experience. These kinds of practical experiences assist enhancing students' knowledge in the field before graduation from their alternative work and study, internship, and cooperative education. CPT is a part-time (20 hours per week) basis project and offered by specific sponsoring employers through the establishment of an agreement to collaborate with the university. This course is considered to be an integral part of an established curriculum. To be eligible for taking CPT, students must have completed at least one trimester of coursework, which is required in their degree program and obtained a Grade Point Average (GPA) 3.0 or above. Students must receive approval by an academic advisor. Students must obtain a corporate agreement and an offer letter from the internship, which outlines the arrangement between the institution and the university. Students must have specific learning objectives to fulfill the requirements of the course and evaluation criteria of CPT. In other words, students who participate in CPT must relate their work to their field of study. International students must follow additional rules required by the U.S. Immigration and Customs Enforcement. Students who need to extend their CPT in the following trimester will have to enroll in one course and make a payment for one course (3 credit hours) tuition. Students are required to submit a report after they complete their CPT for the purpose of evaluation. Failure in this course will prevent students to take any curricular practicum course in the future.
Prerequisite: Upper Division Standing

CPT591 Curricular Practical Training Project I
3 credit hours
Curricular Practical Training (CPT) for graduate students. Curricular practicum is intend for students to demonstrate learned theory from their coursework in which students are able to apply what they have learned to the real-world work setting and research experience. These kinds of practical experiences assist enhancing students' knowledge in the field before graduation from their alternative work and study, internship, and cooperative education. CPT is a part-time (20 hours per week) basis project and offered by specific sponsoring employers through the establishment of an agreement to collaborate with the university. This course is considered to be an integral part of an established curriculum. To be eligible for taking CPT, students must have completed at least one trimester of coursework, which is required in their degree program and obtained a Grade Point Average (GPA) 3.0 or above. Students must receive approval by an academic advisor. Students must obtain a corporate agreement and an offer letter from the internship, which outlines the arrangement between the institution and the university. Students must have specific learning objectives to fulfill the requirements of the course and evaluation criteria of CPT. In other words, students who participate in CPT must relate

their work to their field of study. International students must follow additional rules required by the U.S. Immigration and Customs Enforcement. Students who need to extend their CPT in the following trimester will have to enroll in one course and make a payment for one course (3 credit hours) tuition. Students are required to submit a report after they complete their CPT for the purpose of evaluation. Failure in this course will prevent students to take any curricular practicum course in the future.
Prerequisite: Graduate Standing

CPT592 Curricular Practical Training Project II
3 credit hours
Curricular Practical Training (CPT) for graduate students. Curricular practicum is intend for students to demonstrate learned theory from their coursework in which students are able to apply what they have learned to the real-world work setting and research experience. These kinds of practical experiences assist enhancing students' knowledge in the field before graduation from their alternative work and study, internship, and cooperative education. CPT is a part-time (20 hours per week) basis project and offered by specific sponsoring employers through the establishment of an agreement to collaborate with the university. This course is considered to be an integral part of an established curriculum. To be eligible for taking CPT, students must have completed at least one trimester of coursework, which is required in their degree program and obtained a Grade Point Average (GPA) 3.0 or above. Students must receive approval by an academic advisor. Students must obtain a corporate agreement and an offer letter from the internship, which outlines the arrangement between the institution and the university. Students must have specific learning objectives to fulfill the requirements of the course and evaluation criteria of CPT. In other words, students who participate in CPT must relate their work to their field of study. International students must follow additional rules required by the U.S. Immigration and Customs Enforcement. Students who need to extend their CPT in the following trimester will have to enroll in one course and make a payment for one course (3 credit hours) tuition. Students are required to submit a report after they complete their CPT for the purpose of evaluation. Failure in this course will prevent students to take any curricular practicum course in the future.
Prerequisite: Graduate Standing

ENGLISH AS A SECOND LANGUAGE (ESL) COURSES

ESL100 – ESL154 (Beginning Level)

The purpose of this level of ESL is to "integrate ESL with a student's new life in a new country and city, making friends, learning about new environments and seeing new places."

This level prepares ESL students to communicate using routine statements related to personal needs, desires, and feelings in familiar social contexts. Students learn to write basic messages, interpret maps, pay bills, schedules, follow written and oral instructions, and make basic requests for clarification.

ESL100 and ESL150: Listening and Speaking
80 minutes lecture (5 lectures per week)
These courses are designed for students to focus on hearing the difference between relaxed and careful speech patterns in a variety of simple yet engaging thematic contexts, including daily life situations.
Prerequisite: English Placement Test

ESL102 and ESL152: Conversation and Pronunciation
80 minutes lecture (5 lectures per week)
Students are expected to make an effort to speak only English during this class. Students reinforce knowledge of grammatical structures through grammar and vocabulary games, role-plays, dialogues, interviews, and other engaging activities. The goal of this class is to encourage thinking in English rather than translation from the native language and to speak in complete sentences. After completing these courses, students are able to speak clearly about (with mild corrective attention for pronunciation and grammar) local everyday life by using basic phrases and complete sentences. Example content areas include: opening a bank account, grocery shopping, taking public transportation, local sightseeing, mailing a parcel, buying a car, answering advertisements, paying bills, going to a restaurant, and meeting with Americans for the first time.
Prerequisite: English Placement Test

ESL104 and ESL154: Reading and Writing
80 minutes lecture (5 lectures per week)
These courses will prepare students to use new vocabulary to write a "daily life journal" where they use new words in the context of experiences from their daily life. They also learn the fundamentals of sentences applied to picture stories and become familiar with everyday cultural themes.
Prerequisite: English Placement Test

ESL200 – ESL254 (Low Intermediate)

The purpose of this level of ESL is to "reinforce basic English grammatical structures while focusing on strengthening the listening and speaking ability in order to be socially confident to communicate with Americans or other nationalities."

ESL200 and ESL250: Listening and Speaking
80 minutes lecture (5 lectures per week)
Authentic materials are used to practice listening for main ideas and details, make inferences, and express opinions. Class work emphasizes the use of thematic lessons that engage students intellectually in order to begin expressing increasingly complex thoughts at a higher level of language. Lessons are carefully taught as mini-lectures to engage students and expand their listening ability.
Prerequisite: ESL150 (or equivalent)

ESL202 and ESL252: Conversation and Pronunciation
80 minutes lecture (5 lectures per week)
In these courses, students communicate in English and learn to give presentations on various aspects of American life and comparisons with their native countries. Field trips, scavenger hunts, surveys, photos from home and use of the Internet serve as methods for guiding authentic learning. Students are asked to write dialogues and present them during class.
Prerequisite: ESL152 (or equivalent)

ESL204 and ESL254: Reading and Writing
80 minutes lecture (5 lectures per week)
These courses are designed to prepare students to develop effective reading and writing skills by using written templates, visual aids, and graphic organizers to organize writing ideas. Students learn about reading strategies, increasing text-based fluency, improving reading comprehension skills, and writing effective paragraphs.
Prerequisite: ESL154 (or equivalent)

ESL300 – ESL354 (High Intermediate)

The purpose of this level of ESL is to "reinforce basic English grammatical structures while focusing on strengthening the listening and speaking ability in order to be socially confident to communicate with Americans or other nationalities."

The goal at this level is to encourage student engagement in English by increasing students' confidence in their conversational ability. For example, students enhance their ability to talk about everyday life in the United States by comparing it to their native country. They learn to present in front of a group, routinely discuss daily life with peers, and learn effective strategies for meeting and talking to people.

ESL300 and ESL350: Listening and Speaking
80 minutes lecture (5 lectures per week)
Authentic materials are used to practice listening for main ideas and details, make inferences, and express opinions. Class work emphasizes the use of thematic lessons that engage students intellectually and emotionally in order to begin expressing increasingly complex thoughts at a higher level of language. Lessons are carefully taught as mini-lectures to engage students and expand their listening ability. The Internet is used by the teacher to supplement their academic lessons.
Prerequisite: ESL250 (or equivalent)

ESL302 and ESL352: Conversation and Pronunciation
80 minutes lecture (5 lectures per week)
In these courses, students speak only English and use the community where they live as material for presentations on various aspects of American life and comparisons with their native countries. Field trips, scavenger hunts, surveys, photos from home and use of Internet serve as methods for guiding authentic learning. Students are asked to write dialogues and present them during class.
Prerequisite: ESL252 (or equivalent)

ESL304 and ESL354: Reading and Writing
80 minutes lecture (5 lectures per week)
These courses are designed to introduce students to more complex reading and writing skills. Students learn about reading strategies, increasing text-based fluency, improving reading comprehension skills, and writing short essays using structured paragraphs.
Prerequisite: ESL254 (or equivalent)

ESL400 – ESL454 (Advanced)

The purpose of this level of ESL is to "emphasize the ability to use a variety of media to supplement spoken and written English presentations which are engaging, educational, and communicative to others for purposes of enrichment, feedback, and improvement."

This level is thematically based on the intent of challenging students to expand vocabulary beyond less formal language to academic, literary, news reporting registers, to learn broadly about global events, communicate effectively in writing, and understand the distinctions of informal speech and formal academic registers. Students are encouraged to use English Internet sites for research projects and present research data in coherent multimedia presentations.

ESL400 and ESL450: Listening and Speaking
80 minutes lecture (5 lectures per week)
Authentic materials are used to practice listening for main ideas and details, making inferences, and expressing opinions during class. Class work emphasizes the use of thematic lessons that engage students intellectually and emotionally in order to express increasingly complex thoughts at a higher level of language. Lessons are taught as mini-lectures to engage students in class activities. The Internet is used as a research tool to enhance topical understanding and interest of the relevant subjects.
Prerequisite: ESL350 (or equivalent)

ESL402 and ESL452: Conversation and Pronunciation
80 minutes lecture (5 lectures per week)
In these courses, students communicate in English to improve spoken fluency regarding real-world situations, present opinions about relevant topics, heighten self-confidence in every day speaking ability, and apply new vocabulary and idiomatic expressions more effectively. Most importantly, students are asked to deliver multimedia presentations on current events, topics of social importance, and comparisons across countries to express cultural similarities and differences. Group projects and extensive data collection for presentations are highly encouraged.
Prerequisite: ESL352 (or equivalent)

ESL404 and ESL454: Reading and Writing
80 minutes lecture (5 lectures per week)
These courses are designed to introduce students to more complex reading and writing skills. Students are expected to display a variety of different writing genres, including compare-contrast, providing opinions, and writing to support one side of an argument. This course is coordinated with the speaking and listening class so that writing topics correspond to respective chapters and lectures. The course emphasizes the application of critical thinking skills and expression of complex thought in short essay writing assignments as preparation for further academic work.
Prerequisite: ESL354 (or equivalent)

ESL460: TOEFL Preparation Course
120 minutes lecture (2 lectures per week)
This course is designed to prepare students to take and successfully pass any version of the TOEFL, with a strong focus on the Internet-based TOEFL (iBT). In this course, students will learn relevant vocabulary and practice the different types of test questions in the reading, listening, speaking, and writing parts of the test. Most importantly, students will learn crucial test-taking strategies to get a high score on each section. In addition to in-class review, students will be given weekly homework assignments in all language skill areas and will have the opportunity to take real practice tests towards the end of the course.
Prerequisite: Approval from ESL Director

UNIVERSITY ADMINISTRATION

Dr. Jerry Shiao
- University President

Dr. Chun-Mou Peng
- Academic Dean / Director of Academic Affairs

Dr. Ahmed Ezzat
- Computer Engineering/Computer Science Program Director

Dr. Laura Uden
- Business Administration Program Director

Mr. Kevin Cheng
- Registrar / Director of General Affairs

Ms. Nico Cheng
- Director of Student Affairs

Mr. Thomas Huang
- Information Technology Manager

Ms. Elsie Yu
- Executive Assistant to University President

Mr. Eric Wang
- Database Administrator

Mr. Gary Lin
- Accreditation Coordinator

Ms. Queenie Luo
- International Students Recruiting Officer

Mr. Shyam Prasad Nalla
- International Student Services Coordinator

UNIVERSITY FACULTY MEMBERS

Nirdosh Bhatnagar
Associate Professor
Ph.D. in Electrical Engineering, Stanford University, Palo Alto, California
M.S. in Electrical Engineering, Stanford University, Palo Alto, California
M.S. in Operations Research, Stanford University, Palo Alto, California
B.S. in Electrical Engineering in Electronics and Communications Engineering, Osmania University, Hyderabad, India
Expertise: Network Design & Analysis, Advanced Network Modeling, Computer Network Security, and Cryptology.

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J.D., Golden Gate University, San Francisco, California (1979)
B.A., California State University - Los Angeles, Los Angeles, California (1969)
Expertise: Business Communications, Business Law, and Human Resources Management.

Cameron Bilger
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Ph.D. in Economics, University of London, London, United Kingdom (1990)
M.S. in Economics, University of London, London, United Kingdom (1983)
M.B.A., The Citadel, The Military College of South Carolina, Charleston, South Carolina (1982)
A.B. in Russian and Government, Dartmouth College, Hanover, New Hampshire (1980)
Expertise: Economics, International Marketing, Strategic Marketing, and Consumer Behavior.

Allen Chen
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M.S. in Computer Science, Utah State University, Logan, Utah (1984)
B.S. in Electrical Engineering, Tatung University, Taipei, Taiwan (1978)
Expertise: IC Physical Layout Design, IC Placement Route, and EDA Design Tools.

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Melvin Cobb
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M.S. in Electrical Engineering, University of Santa Clara, Santa Clara, California (1970)
B.S. in Electrical Engineering, University of California - Berkeley, Berkeley, California (1966)
Expertise: Discrete Mathematics, Physical Science, and Technical Writing.

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M.A. in Public Administration in Educational Research, Pennsylvania State University, University Park, Pennsylvania (1977)
M.A. in Sociology/Economics, University of Illinois - Urbana-Champaign, Urbana and Champaign, Illinois (1968)
B.A. in Sociology, University of Illinois - Urbana-Champaign, Urbana and Champaign, Illinois (1965)
Expertise: Marketing Management, Marketing Research, Mobile Marketing, and Organizational Behavior.

Ahmed Ezzat
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Ph.D. in Computer Science, University of New Hampshire, Durham, New Hampshire (1982)
M.S. in Electrical & Computer Engineering, Cairo University, Giza, Egypt (1976)
B.S. in Electrical & Computer Engineering, Cairo University, Giza, Egypt (1971)
Expertise: Compilers, Operating System Design, Business Intelligence & Data Warehousing, Database System, and Unix Network Programming.

John Fan
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M.S. in Electrical Engineering, Memphis State University, Memphis, Tennessee (1989)
B.S. in Education in Industrial Education, National Changhua University of Education, Changhua City, Taiwan (1985)
Expertise: Computer Networks, Wireless Systems, IP Routing, and SNMP.

Agustin Gonzalez
Senior Lecturer
M.S. in Industrial and Systems Engineering, San Jose State University, San Jose, California (2009)
B.S. in Electronic Engineering, California Polytechnic State University - San Luis Obispo, San Luis Obispo, California (1990)
Expertise: Enterprise Resource Planning (ERP), Supply Chain Engineering & Management, and Customer Relations Management.

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M.S. in Computer Information Systems, Golden Gate University, San Francisco, California (1999)
M.A. in International Business, Ohio University, Cincinnati, Ohio (1977)
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B.A. in German and Russian, Ohio University, Cincinnati, Ohio (1973)
Expertise: Cash Flow Management, Strategic Financial Planning, Financial Management, Financial Accounting, and Auditing.

Vernon Hobbs
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Certified Public Accountant (CPA), Illinois, (1983)
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B.S. in Accounting, Florida State University, Tallahassee, Florida (1979)
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M.S. in Structural Engineering, Vanderbilt University, Nashville, Tennessee (1980)
B.S. in Civil Engineering, Indian Institute of Technology Bombay, Mumbai, India (1977)
Expertise: Financial Management, Investment Management & Analysis, Corporate Finance, Project Management, and Accounting.

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M.B.A., University of Chicago, Chicago, Illinois (1978)
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Expertise: Corporate Finance, Investment Management, and International Financial Management.

Linda Ko
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B.A. in Linguistics, University of California - Santa Cruz, Santa Cruz, California (2007)
Expertise: English as a Second Language, and English.

Dongming Liang
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Ph.D. in Computer Science, York University, Toronto, Canada (2004)
M.S. in Information Technology, University of Science and Technology & Academia Sinica, Beijing, China (1996)
B.S. in Computer Science, University of Science & Technology, Beijing, China (1991)
Expertise: Database System Design, Implementation, and Administration, Query Optimization, and SQL Performance Tuning.

Bob McQueen
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Ph.D. in Mechanical Engineering, University of Leeds, Leeds, United Kingdom (1964)
M.S. in Mechanical Engineering, University of Leeds, Leeds, United Kingdom (1962)
B.S. in Mechanical and Production Engineering, University of Salford, Salford, United Kingdom (1960)
Expertise: Project Management, Process Management, Quality Management, and Operational Management.

William Musgrave, Jr.
Professor
D.B.A., The George Washington University, Washington, District of Columbia (1975)
M.B.A., The George Washington University, Washington, District of Columbia (1970)
B.S. in Education, Texas State University, San Marcos, Texas (1963)
Expertise: Organizational Behavior, Management Principle, International Business, and Strategic Management.

Kiran Patel
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M.B.A., Gujarat University, Ahmedabad, India (1997)
B.S. in Engineering, Gujarat University, Ahmedabad, India (1994)
Expertise: Enterprise Resource Planning (ERP), Oracle Financials & Manufacturing, and Supply Chain Management.

Chun-Mou Peng
Professor
Ph.D. in Nuclear Engineering, University of California - Berkeley, Berkeley, California (1983)
M.S. in Nuclear Engineering, Tsing Hua University, Hsin-Chu, Taiwan (1972)
B.S. in Nuclear Engineering, Tsing Hua University, Hsin-Chu, Taiwan (1970)
Expertise: Probability & Statistics, Optimization, Applied Physics, Applied Mathematics, Time Series Analysis.

Nazaneen Sattari
Lecturer
T.E.S.O.L. Certified
B.A. in International Relations, University of California - Davis, Davis, California (2006)
Expertise: English as a Second Language, and English.

Jerry Shiao
Professor
Ph.D. in Electrical Engineering, University of Southern California, Los Angeles, California (1992)
B.S. in Control Engineering, National Chiao-Tung University, Hsin-Chu, Taiwan (1984)
Expertise: Wired/Wireless Local Area Networks (LANs), Network Design & Optimization (Routing), Network Management, Modeling & Performance Analysis of Network Systems, and High Speed Access Networks.

Laura Uden
Associate Professor
Ph.D. in Change Management, University of Salford, Salford, United Kingdom (2005)
M.S. in Systems Engineering Management, San Jose State University, San Jose, California (1996)
B.S. in Industrial and Systems Engineering, San Jose State University, San Jose, California (1993)
Expertise: Project Management, Program Management, Business Process Management, and Quality Management.

Ming-Kuang (Daniel) Wu
Assistant Professor
M.S. in Computer Science, Stanford University, Palo Alto, California (2000)
B.S. in Information Management, National Taiwan University, Taipei, Taiwan (1996)
Expertise: Database Design, Software Engineering, Web Technologies, Programming Methodologies, and Programming Languages.

Yung-Ming (Bert) Wu
Lecturer
M.S. in Electrical Engineering, University of Southern California, Los Angeles, California (1994)
B.S. in Electrical Engineering, National Tsing Hua University, Hsin-Chu, Taiwan (1990)
Expertise: Digital System Development & Verification, FPGA & ASIC Flow and Design, PCB & SI Design, HDL design, Logic Design, and IC Design.