

# **Silicon Valley University**

**2011-2012 Catalog**

# SILICON VALLEY UNIVERSITY

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## **SVU 2011 - 2012 ACADEMIC CALENDAR**

<b>FALL 2011</b>		<b>&lt; SEPTEMBER 06 – DECEMBER 17, 2011 &gt;</b>
September, 2011		
05	Mon	Labor Day (campus closed)
06	Tue	Classes begin
		Student Orientation for Fall Trimester 2011
08	Thurs	English placement examination
12	Mon	1 <sup>st</sup> session of ESL classes begins
17	Sat	Last day to add / drop courses
29	Thurs	Last day of OPT application for Summer 2011 graduates
30	Fri	Official graduation day for Summer 2011
October, 2011		
17 – 22	Mon-Sat	Course review / Midterm examination
21	Fri	1 <sup>st</sup> session of ESL classes ends
31	Mon	2 <sup>nd</sup> session of ESL classes begins
November, 2011		
02	Wed	First day of OPT application for Fall 2011 graduates
11	Fri	Last day for graduation petition
21	Mon	First day of early registration for Spring Trimester 2012
24 – 25	Thurs-Fri	Thanksgiving Holidays (campus closed)
December, 2011		
09	Fri	2 <sup>nd</sup> session of ESL classes ends
12 – 17	Mon-Sat	Course review / Final examination
19	Mon	First day of trimester recess (2 weeks school break)
24 – 26	Sat-Mon	Christmas Holidays (campus closed)
Dec 31 – Jan 02	Sat-Mon	New Year's Eve & New Year's Day observed (campus closed)
January, 2012		
03	Tue	Classes begin
		Student Orientation for Spring Trimester 2012
04	Wed	English placement examination
09	Mon	1 <sup>st</sup> session of ESL classes begins
14	Sat	Last day to add / drop courses
30	Mon	Last day of OPT application for Fall 2011 graduates
31	Tue	Official graduation day for Fall 2011

<b>SPRING 2012</b>		<b>&lt; JANUARY 03 – APRIL 14, 2012 &gt;</b>
January, 2012		
01 – 02	Sun-Mon	New Year's Day & New Year's Day observed (campus closed)
03	Tue	Classes begin
		Student Orientation for Spring Trimester 2012
04	Wed	English placement examination
09	Mon	1 <sup>st</sup> session of ESL classes begins
14	Sat	Last day to add / drop courses
30	Mon	Last day of OPT application for Fall 2011 graduates
31	Tue	Official graduation day for Fall 2011
February, 2012		
13 – 18	Mon-Sat	Course review / Midterm examination
17	Fri	1 <sup>st</sup> session of ESL classes ends
20	Mon	President's Day (campus closed)
27	Mon	2 <sup>nd</sup> session of ESL classes begins
March, 2012		
02	Fri	First day of OPT application for Spring 2012 graduates
		Last day for graduation petition
26	Mon	First day of early registration for Summer Trimester 2012
April, 2012		
06	Fri	2 <sup>nd</sup> session of ESL classes ends
09 – 14	Mon-Sat	Course review / Final examination
16	Mon	First day of trimester recess (2 weeks school break)
30	Mon	Classes begin
		Student Orientation for Summer Trimester 2012
May, 2012		
02	Wed	English placement examination
07	Mon	1 <sup>st</sup> session of ESL classes begins
12	Sat	Last day to add / drop courses
28	Mon	Memorial Day (campus closed)
30	Wed	Last day of OPT application for Spring 2012 graduates
31	Thurs	Official graduation day for Spring 2012

<b>SUMMER 2012</b>		<b>&lt; APRIL 30 – AUGUST 11, 2012 &gt;</b>
April, 2012		
30	Mon	Classes begin
Student Orientation for Summer Trimester 2012		
May, 2012		
02	Wed	English placement examination
07	Mon	1 <sup>st</sup> session of ESL classes begins
12	Sat	Last day to add / drop courses
28	Mon	Memorial Day (campus closed)
30	Wed	Last day of OPT application for Spring 2012 graduates
31	Thurs	Official graduation day for Spring 2012
June, 2012		
11 – 16	Mon-Sat	Course review / Midterm examination
15	Fri	1 <sup>st</sup> session of ESL classes ends
25	Mon	2 <sup>nd</sup> session of ESL classes begins
29	Fri	Last day for graduation petition
July, 2012		
02	Mon	First day of OPT application for Summer 2012 graduates
04	Wed	Independence Day (campus closed)
23	Mon	First day of early registration for Fall Trimester 2012
August, 2012		
03	Fri	2 <sup>nd</sup> session of ESL classes ends
06 – 11	Mon-Sat	Course review / Final examination
13	Mon	First day of trimester recess (4 weeks school break)
18	Sat	Graduation Commencement
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	1 <sup>st</sup> session of ESL classes begins
22	Sat	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

<b>FALL 2012</b>		<b>&lt; SEPTEMBER 10 – DECEMBER 22, 2012 &gt;</b>
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	1 <sup>st</sup> session of ESL classes begins
22	Sat	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		
22 – 27	Mon-Sat	Course review / Midterm examination
26	Fri	1 <sup>st</sup> session of ESL classes ends
November, 2012		
02	Fri	First day of OPT application for Fall 2012 graduates
05	Mon	2 <sup>nd</sup> 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		2 <sup>nd</sup> 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 – Jan 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	1 <sup>st</sup> session of ESL classes begins
18	Sat	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

## **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 university offers state-of-the-art computer equipment in its infrastructure, labs and classrooms, including ORACLE Database servers, a mail server and web servers, several Cisco 3560 LAN switches, Linksys Ethernet switches, several Linksys and Apple Computer 802.11 a/b/g/n wireless access routers and a large number of PCs.

### **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 with collection including but not limited to Business, Computer Science and Engineering, General Education, etc. Students also have access to major professional journals and mass media publications such as ProQuest, IEEE, and ACM.

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 the state-of-the-art computer systems, computer network infrastructure and high speed internet access. The campus deploys LAN access in each computer lab and classroom.

The campus is also equipped with a wireless LAN. 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.

Silicon Valley University also join Apple iTunes U program to be able to offer online class material for allowing students to download streaming video and documents to its PCs, Laptop or mobile device/equipment.

Silicon Valley University subscribe Microsoft MSDN Academic Alliance (MSDNAA) membership to make the latest Microsoft software available in labs, 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, Compute 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.

### **Computer Aided Design Lab**

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, 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, 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:

#### **Bureau for Private Postsecondary Education**

P.O. Box 980818  
West Sacramento, CA 95798-0818  
Phone: (916) 574-7720  
Web site: <http://www.bppe.ca.gov>  
E-mail: [bppe@dca.ca.gov](mailto:bppe@dca.ca.gov)

### **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, SCHOLARSHIPS, 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**

Founder and 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)

### **Certificate Programs**

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

## **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 enter 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 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, or its equivalent such as GED, official transcript showing a minimum GPA of 1.75, 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 other approved or 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 Sciences, or an equivalent degree from an accredited or approved college or university to be admitted to a Master 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 math and computer science. Students lacking this proficiency may still be admitted as conditional students and take the appropriate courses required to achieve 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 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®) or International English Language Testing System (IELTS™).
- 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™ 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) or the academic format of the IELTS™ (International English Language Testing System).

- 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 test must have been taken within two years of the first trimester of enrollment. When submitting the test scores to SVU. The original test scores are required; applicants may submit the scores in person or by mail.

The following table explains the TOEFL® and IELTS™ 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.

<b>Degree</b>	<b>Institutional TOEFL®</b>	<b>Internet-based TOEFL®</b>	<b>IELTS™</b>
Bachelor	500	61	5.5
Master	530	71	6.0

Applicants are strongly encouraged to take the TOEFL® test prior to coming to SVU. Those applicants who did not take the TOEFL® or IELTS™ test, or those who did not pass the proficiency requirements stated above, will be required to take the TOEFL®/IELTS™ test during their first week of class at SVU. The students can either take the official TOEFL® or IELTS™ 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 provision 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 on or more English classes or retaking the TOEFL®/IELTS™ or equivalent proficiency test. Also note that the applicant also has the option to retake the TOEFL®/IELTS™ 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™ Requirements**

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

The TOEFL®/IELTS™ 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 programs or 71 for the MBA/MSCS/MSCE programs or IELTS score of 5.5 for the BBA/BSCS/BSCE programs or 6.0 for the MBA/MSCS/MSCE degree programs, 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 (LS), Reading/Writing (RW) and Conversation/Pronunciation (CP) 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 beginning of the academic trimester and at the end of academic trimester. For any student who scores or above on the examination (71 for Master degree seeking students or 61 for Bachelor's degree seeking students), has the option of not taking ESL courses and will be recommended for taking regular degree coursework at SVU.

### **English as a Second Language (ESL) Program Structure**

The program consists of 6 levels and each level has Listening and Speaking (LS), Conversation and Pronunciation (CP) and Reading and Writing (RW):

The course numbers for each level are listed as:

- (a) Beginning Level**
  - (1)ESL 150
  - (2)ESL 200
- (b) Intermediate Level**
  - (1)ESL 250
  - (2)ESL 300
- (c) Advanced Level**
  - (1)ESL 350
  - (2)ESL 400

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

- ESL150: 20 hours per week
- ESL200: 20 hours per week

- ESL250: 20 hours per week
- ESL300: 20 hours per week
- ESL350: 20 hours per week
- ESL400: 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. You should allow those institutions about six weeks to process your request. This material may be sent either separately or with the whole application package. To expedite your application more effectively, we recommend that all materials 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® exam.

### **Additional Instructions for Applicants Whose Degree Is From a Non-US Institution**

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

**TOEFL®  
Educational Testing Service  
P.O. Box 6151  
Princeton, NJ 08541-6151  
Website: [www.TOEFL.org](http://www.TOEFL.org)  
Email: [TOEFL@ets.org](mailto:TOEFL@ets.org)**

**IELTS™ INTERNATIONAL  
825 Colorado Boulevard, Suite 112  
Los Angeles, CA 90041  
Website: [www.IELTS.org](http://www.IELTS.org)  
Email: [IELTS@IELTSintl.org](mailto: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 mapped 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 before to obtain prior degree (BS or MS) cannot be used to transfer to the current degree.

Transfer credits will be approved by the end of the first trimester, subjected to denial for late transfer.

**TUITION AND FEES**

SVU makes every effort to keep student costs to a minimum. Therefore, SVU reserves the right, even after initial fee payments are made, to increase or modify any listed fees, with one trimester notice. All SVU listed fees should be regarded as **estimates** that are subject to change upon approval by The Board of Trustees.

Fees are subject to change with one trimester prior notice.

**Tuition**

Undergraduate Tuition	\$ 295 per credit hour
Graduate Tuition	\$ 395 per credit hour
(Master degree program students enrolled in undergraduate upper division 300 level courses)	\$ 295 per credit hour
(Master degree program students enrolled in undergraduate upper division 400 level courses)	\$ 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 Fee (if lab is required)**

Undergraduate Program	\$ 295 per course
(Master degree program students enrolled in undergraduate upper division 300 level courses)	\$ 295 per course

Graduate Program \$ 5 per course  
 (Master degree program students enrolled in  
 undergraduate upper division 400 level courses)  
 \$ 5 per course

Mailing cost may vary, and depends on destination.)

Lab credit will be counted towards graduation requirement.

CPT Fee (equivalent to one course tuition): CPT is an optional and internship course, the credits earned will not be counted towards the graduation requirement. Students who need to extend their CPT for following trimester will have to enroll and make a tuition payment for one course.

Summer Registration: Since SVU academic calendar follows a trimester system; ONLY international students are required to register. Full time students during the summer to maintain their legal status in the U.S.

Certificate Students pay the same tuition rates as undergraduate students.

**Estimated Fees**

Room/Board/Personal Living Expenses:  
 (Approx. \$600-\$700/month) \$ 8,000 or more  
 Per year  
 Textbooks \$ 200 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 \$ 50  
 Non-Registered Student In-Out Fee \$ 325  
 Institutional TOEFL® Test Fee \$ 50  
 Regular Document Processing Fee \$ 10-\$25  
 Express Processing Fee \$ 25  
 Changing Major Fee \$ 30

**Official Transcript Request**

Pick Up/ Domestic Mail \$ 10 per copy  
 Priority Mail \$ 35 per copy  
 (Each additional copy is \$10.)  
 International Mail \$ 60 (minimum)  
 per copy  
 (Each additional copy is \$10.)

**Transcript Rush Processing/Express Delivery**

Domestic Mail \$ 35 per copy  
 (Each additional copy is \$10.)  
 International Mail \$ 60 (minimum)  
 per copy  
 (Each additional copy is \$10.  
 Mailing cost may vary, and depends on destination.)  
 Rush – Hold for Pickup \$ 35 per copy  
 (Each additional copy is \$10.)

Late Payment Fee \$ 100  
 for the first month and \$50 each month thereafter.  
 Course Add or Drop Fee (Per course) \$ 25  
 Late Course Add or Drop Fee (Per course) \$ 50  
 Graduation Fee \$ 275  
 Students 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**

Students should refer to their enrollment agreement for detailed refund and cancellation policies. 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 give written notice of cancellation at the University address. You can do this 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 shall be a pro-rata refund as shown in the following refund schedule. If the student has completed more than 50% of the program, no portion of the tuition shall be refunded.

### **Refund Schedule**

<b>Week of the trimester</b>	<b>% of refund</b>
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](mailto: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 plus 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 in 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 the faculties 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 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:

<b>Letter Grade</b>	<b>Grade Points</b>
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 **3.50** 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 student's grade report and transcript until such time as 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 who plans to obtain a second or higher degree at SVU will be treated as a new admission. A new student ID will be issued and the student will have to submit all the required credentials (e.g. all official transcripts previously obtained, diploma copy, for more information please refer to General Admission on page 3) and documents in order to be accepted in the program.

### **Changing Program**

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 major depend on the number credit hours the student has completed and the requirements of new major intended. 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 at other than the scheduled times 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 Academic Dean and the office of the Registrar, and without completing the established 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 application for 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 did not withdraw 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, honors, field of study, and date and 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 can arrange either private or small group tutorial sessions.

In addition to the course counseling offered by the Office of Academic Affairs, the Office of Student Affairs offers more informal counseling designed to help students identify and pursue their career goals, as well as offering 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, and Library Assistant position available to qualified current 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 by any other member resulting in the creation of an offensive, intimidating or hostile academic or employment 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 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 convening 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  
(916) 574-7720

**Physical Address:**  
2535 Capitol Oaks Drive, Suite 400  
Sacramento, CA 95833  
(916) 431-6959  
(888) 370-7589

**Web site:** [www.bppe.ca.gov](http://www.bppe.ca.gov)  
**E-mail:** [bppe@dca.ca.gov](mailto:bppe@dca.ca.gov)

**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) Met 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 exiting 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**

- Successful completion of all coursework listed in the study plan.
- GPA (Grade Point Average) of 2.00 or above for undergraduate students, and 3.00 or above for graduate students
- All tuition and fees must be paid
- Application for graduation and graduation fees are paid
- 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 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  
 CMP: Computer  
 COMM: Communication  
 CS: Computer Science  
 ECON: Economics  
 ENGL: English  
 ESL: English as a Second Language  
 MATH: Mathematics  
 NS: Nutritional Science  
 PHYS: Physics  
 POLS: Political Science  
 PSYCH: Psychology  
 SOCL: Sociology

**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 69 credits
  - General Education 57 credits
  - Computer Science Basics 12 credits
- Upper Division 59 credits
  - Computer Science Core 39 credits
  - Professional Development 6 credits
  - Electives 14 credits

### Lower- Division Curriculum (Minimum 69 credit hours)

A minimum of 69 lower division credit hours including a minimum of 57 credit hours in the following areas of general education and 12 credit hours in Computer Science Basics:

#### General Education (Minimum 57 credit hours)

##### **Area A**

English 6 credits  
As a requirement of Area A, each student must complete:

ENGL100	English Composition
ENGL200	Critical Thinking

##### **Area B**

Natural Sciences & Mathematics 24 credits  
As a requirement of Area B, each student must complete:

NS100	Introduction to Human Nutrition
MATH200	Calculus I
PHYS200	College Physics I
MATH202	Calculus II
PHYS202	College Physics II
MATH204	Calculus III
MATH206	Discrete Mathematics
MATH210	Probability & Statistics

##### **Area C**

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

CMP100	The Digital World & Society
COMM120	Fundamental of Intercultural Communication
ENGL220	Technical Writing

##### **Area D**

Social Sciences 18 credits  
As a requirement of Area D, each student must complete:

ECON100	Principles of Economics: Macroeconomics
POLS100	American Government
PSYCH100	General Psychology
SOCL100	Introduction to Sociology
POLS150	U.S. History
ECON200	Principles of Economics: Microeconomics

### 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 59 credit hours)**

**Computer Science Core (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
CS410	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

**Professional Development (6 credit hours)**

ENGL300	Professional Communication I	3 credits
ENGL302	Professional Communication II	3 credits

**Electives (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 72 credits
  - General Education 60 credits
  - Computer Science Basics 12 credits
- Upper Division 56 credits
  - Computer Engineering Core 43 credits
  - Professional Development 6 credits
  - Electives 7 credits

**Lower- Division Curriculum (Minimum 72 credits)**

A minimum of 72 lower division curriculum credit hours including a minimum of 60 credit hours in the following areas of general education and 12 credit hours in Computer Science Basics:

**General Education (Minimum 60 credit hours)**

***Area A***

English 6 credits  
As a requirement of Area A, each student must complete:

ENGL100	English Composition
ENGL200	Critical Thinking

***Area B***

Natural Sciences and Mathematics 27 credits  
As a requirement of Area B, each student must complete:

NS100	Introduction to Human Nutrition
MATH200	Calculus I
PHYS200	College Physics I
MATH202	Calculus II
PHYS202	College Physics II
MATH204	Calculus III
MATH206	Discrete Mathematics
MATH210	Probability & Statistics
MATH214	Differential Equations

***Area C***

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

CMP100	The Digital World & Society
COMM120	Fundamental of Intercultural Communication
ENGL220	Technical Writing

***Area D***

Social Sciences 18 credits  
As a requirement of Area D, each student must complete:

ECON100	Principles of Economics: Macroeconomics
POLS100	American Government
PSYCH100	General Psychology
SOCL100	Introduction to Sociology
POLS150	U.S. History
ECON200	Principles of Economics: Microeconomics

**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 56 credit hours)**

**Computer Engineering Core (Minimum 43 credit hours)**

CS300	Data Structure	3 credits
CS300L	Data Structure Lab	1 credit
MATH300	Engineering Mathematics	3 credits
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	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

**Professional Development (6 credit hours)**

ENGL300	Professional Communication I	3 credits
ENGL302	Professional Communication II	3 credits

**Electives (7 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 52 credits
  - General Education 52 credits
- Upper Division 76 credits
  - Core Course Requirements 18 credits
  - Professional Development 6 credits
  - Electives 52 credits

### **Low-Division Curriculum (Minimum 52 credit hours)**

All students must complete at least 52 credit hours in general education with at least 6 credit hours in English, 19 credit hours in Natural Science and Mathematics, 9 credit hours in Humanities and Communications, and 18 credit hours in Social Sciences.

#### ***Area A***

English 6 credits  
As a requirement of Area A, each student must complete:

ENGL100	English Composition
ENGL200	Critical Thinking

#### ***Area B***

Natural Sciences & Mathematics 19 credits  
As a requirement of Area B, each student must complete:

MATH100	College Algebra
NS100	Introduction to Human Nutrition
CS200	Introduction to Computer Science
CS200L	Computer Science Introduction Lab
MATH200	Calculus I
MATH202	Calculus II
MATH210	Probability & Statistics

#### ***Area C***

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

CMP100	The Digital World & Society
COMM120	Fundamental of Intercultural Communication
ENGL220	Technical Writing

#### ***Area D***

Social Sciences 18 credits  
As a requirement of Area D, each student must complete:

ECON100	Principles of Economics: Macroeconomics
POLS100	American Government
PSYCH100	General Psychology
SOCL100	Introduction to Sociology
POLS150	U.S. History
ECON200	Principles of Economics: Microeconomics

### **Upper-Division Curriculum (Minimum 76 credit hours)**

#### **Core Courses (Minimum 18 credit hours)**

BA300	Fundamentals of Accounting	3 credits
BA330	Financial Management	3 credits
BA410	Management Information Systems	3 credits
BA430	Corporate Finance	3 credits
BA440	Management Principles	3 credits
BA460	Marketing Management	3 credits

#### **Professional Development (6 credit hours)**

ENGL300	Professional Communication I	3 credits
ENGL302	Professional Communication II	3 credits

#### **Electives (Minimum 52 credit hours)**

The student must complete at least 52 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 the areas such as: Accounting, Economics, Finance, Management, Management Information System, and Marketing

## 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:

<b>Natural Sciences &amp; Mathematics</b>		<b>15 credits</b>
MATH200	Calculus I	3 credits
MATH202	Calculus II	3 credits
MATH204	Calculus III	3 credits
MATH206	Discrete Mathematics	3 credits
MATH210	Probability & Statistics	3 credits
<b>Computer Science</b>		<b>45 credits</b>
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
CS400M	Operating Systems	3 credits
CS400M-L	Operating Systems Lab	1 credit
CS402M	Programming Language	3 credits
CS404M	Compilers	3 credits
CS410M	Introduction to Database Systems	3 credits
CE454M	Microprocessor Design	3 credits
CE454M-L	Microprocessor Design Lab	1 credit

CE460M	Introduction to Embedded Systems	3 credits
CE460M-L	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.

<b>Computer Science Graduate Core</b>		<b>18 credits</b>
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
<b>Electives</b>		<b>Minimum 18 credits</b>
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:

<b>Natural Sciences &amp; Mathematics</b>		<b>27 credits</b>
MATH200	Calculus I	3 credits
PHYS200	College Physics I	3 credits
MATH202	Calculus II	3 credits
PHYS202	College Physics II	3 credits
MATH204	Calculus III	3 credits
MATH206	Discrete Mathematics	3 credits
MATH210	Probability & Statistics	3 credits
MATH214	Differential Equations	3 credits
MATH300	Engineering Mathematics	3 credits
<b>Computer Science</b>		<b>42 credits</b>
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
CE452M	Advanced Logic Design	3 credits
CE452M-L	Advanced Logic Design Lab	1 credit
CE454M	Microprocessor Design	3 credits
CE454M-L	Microprocessor Design Lab	1 credit
CE456M	Fundamentals of VLSI Design	3 credits
CE460M	Introduction to Embedded Systems	3 credits
CE460M-L	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.

<b>Computer Engineering Graduate Core 19 credits</b>		
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
<b>Electives Minimum 17 credits</b>		
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:

<b>Business Preparatory Courses</b>		<b>12 credits</b>
MATH210	Probability & Statistics	3 credits
BA300	Fundamentals of Accounting	3 credits
BA330	Financial Management	3 credits
BA380	Introduction to Quantitative Methods in Business	3 credits

### 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.

<b>MBA Core Courses</b>		<b>18 credits</b>
BA410M	Management Information Systems	3 credits
BA440M	Management Principles	3 credits
BA460M	Marketing Management	3 credits
BA500	Financial Accounting	3 credits
BA530	Corporate Finance	3 credits
BA585	Statistical Methods for Business Research	3 credits

  

<b>Electives</b>		<b>Minimum 18 credits</b>
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.		

## 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 525 hours of training.

<b>Certificate Core Courses</b>		
CS200	Introduction to Computer Science	75 hours
CS206	Introduction to UNIX /Linux	75 hours
<b>Electives</b>		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 525 hours of training.

<b>Certificate Core Courses</b>		
CS200	Introduction to Computer Science	75 hours
CS206	Introduction to UNIX /Linux	75 hours
<b>Electives</b>		Minimum of 375 hours
CS400	Operating Systems	75 hours
CS402	Programming Languages	45 hours
CS404	Compilers	45 hours
CS410	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  
 CMP: Computer  
 COMM: Communication  
 CS: Computer Science  
 ECON: Economics  
 ENGL: English  
 ESL: English as a Second Language  
 MATH: Mathematics  
 NS: Nutritional Science  
 PHYS: Physics  
 POLS: Political Science  
 PSYCH: Psychology  
 SOCL: Sociology

### **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: Management 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 will be counted towards the graduation requirement.

## **GENERAL EDUCATION UNDERGRADUATE COURSES**

### **Area A**

#### **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.

*Prerequisites: English Placement Test*

#### **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.

*Prerequisites: ENGL100*

### **Area B**

#### **MATH100 College Algebra**

*3 credit hours (3 hours of lecture)*

This course is designed for preparing undergraduate students in obtaining knowledge and skills of algebra operations. Students completing this course will have the capabilities to enroll 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.

*Prerequisites: None*

#### **MATH110 Pre-Calculus**

*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 Math 200 (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.

*Prerequisites: None*

#### **MATH200 Calculus I**

*3 credit hours (3 hours of lecture)*

This course is the first course of undergraduate level calculus focused on conceptual understanding and technical competence developing in evaluating of 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. The students enrolling in this course are recommended to have high school Pre-Calculus training with fundamental knowledge of algebra operations.

*Prerequisites: MATH100 or MATH110*

#### **MATH202 Calculus II**

*3 credit hours (3 hours of lecture)*

This course is the second course of undergraduate level calculus focused on conceptual understanding and technical competence developing in 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, Strategy for Performing Integration, and Applications of Integration in Different Disciplines. The students enrolling in this course are recommended to have high school Pre-Calculus training with fundamental knowledge of algebra operations and basic differentiations.

*Prerequisites: MATH200*

#### **MATH204 Calculus III**

*3 credit hours (3 hours of lecture)*

This course is the third course of undergraduate level calculus 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. The students enrolling in this course are recommended to have high school Pre-Calculus training with fundamental knowledge of algebra operations and basic differentiation.

*Prerequisites: 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.

*Prerequisites: MATH200*

### **MATH210 Probability & Statistics**

*3 credit hours (3 hours of lecture)*

This course is focused on the concept, theory, and applications of probability and statistics in Science, Engineering and Business. Topics covered are: Sample Space & Events, Random Variables, Discrete Random Variables and Distributions, Continuous Random Variables and Distributions, Joint Probability Distributions, Random Sampling and Data Description, Sampling Distribution and Point Estimation of Parameters, Interval Estimate of Parameters for a Single Sample, Tests of Hypothesis for a Single Sample and Statistical Inference for Two Samples.

*Prerequisites: 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.

*Prerequisites: MATH202*

### **MATH300 Engineering Mathematics**

*3 credit hours (3 hours of lecture)*

This course is designed to prepare undergraduate engineering students in acquiring mathematical knowledge and application skills for solving engineering problems arisen in computer science or

computer engineering area. Topics covered in this course are: Systems of Linear Equations, Matrix Algebra, Eigenvalue Problems, Integral Transform, Laplace Transformation and Applications, Z-Transformation and Applications, Fourier Series Analysis, Fourier Integrals, Fourier Transformations and Applications, Discrete Fourier Transformation (DFT) and Applications, Fast Fourier Transformations (FFT) and Applications, and Wavelet Transformations and Applications.

*Pre-Requisite: Math200 and Math214*

### **NS100 Introduction to Human Nutrition**

*3 credit hours (3 hours of lecture)*

This course covers the principles and methodology of nutritional science; standards of nutrient intake; physiological functions and chemical classification of nutrients; nutrient needs throughout the lifespan; relationship between diet and disease; scientific, social, and psychological issues.

*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.

*Prerequisites: 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.

*Prerequisites: PHYS200*

### Area C

#### **CMP100 The Digital World and Society**

*3 credit hours (3 hours of lecture)*

This course covers the secure, effective and ethical use of information technology and examines the effect of such technology on people and institutions. Topics cover include technology-related challenges to society and policy and the frameworks for the analysis of information technology with respect to its cultural, historical, environmental, and spatial contexts.

*Prerequisites: 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*

#### **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.

*Prerequisites: ENGL100*

### Area D

#### **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.

*Prerequisites: 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.

*Prerequisites: 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.

*Prerequisites: 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.

*Prerequisites: 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.

*Prerequisites: None*

#### **SOCL100 Introductory Sociology**

*3 credit hours (3 hours of lecture)*

This course covers the major subject areas and principles of sociology. Students learn the basic concepts and ideas within the discipline of sociology. The purpose of this course is to provide students with a foundation of sociology as it relates to individuals and groups within contemporary American society. Topics include, but are not limited to, defining sociology, culture, socialization, social structure, social organization, social class, social change, sociology of families, and race & ethnicity.

*Prerequisite: None*

## **PROFESSIONAL DEVELOPMENT**

### **ENGL300 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.

*Prerequisites: None*

### **ENGL302 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.

*Prerequisites: ENGL300*

## **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.

*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.

*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 Bjarne 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.

*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.

*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 understand the importance of electric circuits to the engineering world and the quality of our life. 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 that how logic circuits are implemented in real world and to get familiar with the concept of design process in industry. This course provides an introduction to the analysis and design of digital circuits at a logic 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.

*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.

*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 hand-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 (3hours 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 (3hours 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: None*

**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: None*

**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 hand-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)

Microprocessor design is the course to overview 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 hand-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: None*

**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 toolchain 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 Toolchain, Embedded Bootloaders, 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: 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 Toolchain, Embedded Bootloaders, 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 the Nanotechnology**

3 credit hours (3 hours of lecture)

This course overviews 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, student should set up counseling session with potential project instructor to define the project objective, scope, and progress check points. In general, student should meet with instructor at least biweekly and submit formal report and presentation for discussion and evaluation. Upon completion, with 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, student should set up counseling session with potential project instructor to define the project objective, scope, and progress check points. In general, student should meet with instructor at least biweekly and submit formal report and presentation for discussion and evaluation. Upon completion, with 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, uni-processor 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: MATH206 and 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).

*Prerequisites: 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.

*Prerequisites: 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.

*Prerequisites: 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, WHIRPOOL, 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 are: Evaluation of network connectivity, and its reliability. Analysis of networks via queueing theory, and simulation. Factorial design. Design of different types of networks, like access and backbone networks. Study of Internet traffic, and structure of the Internet. General principles used in the design and evaluation of network protocols.

*Prerequisite: MATH206 and 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 is to demonstrate how to approach the task of developing embedded software and system for a range of applications based on the use of practical examples. Topics include the analysis of requirements and system design; and 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.

*Prerequisites: CS400 and CE450*

**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: 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: CS230 or CS332 (or equivalent)*

**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: CS560*

**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 are: 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: CE560*

**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 basic 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: CE450*

**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 the 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 are: 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: CE560*

**CE581 Advanced Engineering Analysis**

3 credit hours (3 hours of lecture)

This course is intended primarily to review and establish the foundations in applied mathematics for solving problems in various fields of engineering. Topics will include but not limited to matrix algebra, spectral analysis, stochastic process, Monte Carlo simulation, and numerical methods. Besides understanding the theoretical aspects, the students will be required to perform extensive computer simulations using modern software tools to enhance their knowledge in an active learning environment.

*Prerequisite: Graduate standing*

**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 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: CE352*

**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.

*Prerequisites: Graduate standing*

**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 are: 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: CE560*

**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 a graduate project, student should set up counseling session with potential project instructor to define the project objective, scope, and progress check points. In general, student should meet with instructor at least biweekly and submit formal report and presentation for discussion and evaluation. Upon completion, with instructor's approval, a final report shall be submitted to CE department and a formal project presentation shall be presented to the department.

*Prerequisites: 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 a graduate project, student should set up counseling session with potential project instructor to define the project objective, scope, and progress check points. In general, student should meet with instructor at least biweekly and submit formal report and presentation for discussion and evaluation. Upon completion, with instructor's approval, a final report shall be submitted to CS department and a formal project presentation shall be presented to the department.)

*Prerequisites: 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*

**BUSINESS ADMINISTRATION**  
**UNDERGRADUATE COURSES**

**BA300 Fundamentals of Accounting**

*3 credit hours (3 hours of lecture)*

Introduction to accounting theory and techniques for business majors. 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: Undergraduate mathematics in algebra*

**BA301 Intermediate Financial Accounting**

*3 credit hours (3 hours of lecture)*

The course will cover 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.

*Prerequisites: BA300*

**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*

**BA320 Cash Management**

*3 credit hours (3 hours of lecture)*

The course covers principles of cash management in a corporate finance setting with focus on financial accounting, the collection cycle, electronic commerce, information technology, investment strategies, debt, and international business effect cash management, and yield curve analysis.

*Prerequisites: BA300*

**BA330 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.

*Prerequisites: MATH210 and BA300*

**BA352 Discovering Business**

*3 credit hours (3 hours of lecture)*

The courses provide student participants with an overview of today's business environment. They will learn a global perspective to work that will include everything from 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, 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.

*Prerequisites: MATH210*

**BA401 Advanced Financial Accounting**

*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*

**BA410 Management Information Systems**

*3 credit hours (3 hours of lecture)*

Conceptual background, structures, and use of computer-based information systems. Detailed coverage of the theory and practice of information systems. Data processing technology and its applications, systems concepts, systems analysis and evaluation, and managerial and technological considerations of information systems. Examining systems for intra- and inter-organizational transactions, coordination, and control.

*Prerequisite: None*

**BA411 Database Management Systems**

3 credit hours (3 hours of lecture)

This course takes a hands-on approach to the design and use of relational databases for business applications through the study of query languages and application generation. It will add emphasis on the use of database software in current business environments.

*Prerequisite: Upper Division standing*

**BA430 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 at the end analyze financial issues in mergers and acquisitions.

*Prerequisite: BA330*

**BA431 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.

*Prerequisites: MATH210 and 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.

*Prerequisites: 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: None*

**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.

*Prerequisite: Upper Division standing*

**BA443 Compensation and Benefits**

3 credit hours (3 hours of lecture)

The course covers wage and salary administration, wage and hour law, and employee benefits.

*Prerequisite: BA440*

**BA445 Organizational Theory & Behavior**

3 credit hours (3 hours of lecture)

The course offers a survey of behavior in and 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*

**BA460 Marketing Management**

3 credit hours (3 hours 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 important concerns. 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.

*Prerequisite: None*

**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 and case applications, and student projects.

*Prerequisites: BA460*

**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 introduction to e-Commerce and related subjects. The course will cover e-commerce infrastructure and its related technologies. Various business models used in e-commerce will be discussed in the lecture. The student will have knowledge of e-commerce when finishes this course.

*Prerequisite: Upper Division standing*

**BA470 International Marketing**

*3 credit hours (3 hours of lecture)*

The 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 managing the global marketing effort. The perspective of the course is from a managerial point of view. Its purpose is to prepare the student to lead the organization to penetrate global opportunities successfully as well as to meet global threats in domestic markets.

*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 offer a relative new subject that is not currently available in the catalog, but is of great relevance to business administration. It may consist of lectures, reading assignments, 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 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.

*Prerequisite: Graduate standing*

### **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*

### **BA504 Tax Accounting**

*3 credit hours (3 hours of lecture)*

Introduction of 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 are: 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: BA501*

### **BA512 Systems Analysis and Design**

*3 credit hours (3 hours of lecture)*

This course examines methodology to analyze and design computer-based information systems for business applications. Topics to be covered are data flow diagrams, flowcharts, structures English, pseudo code, hierarchy charts, structure diagrams, and Warnier-Orr charts.

*Prerequisite: Graduate standing*

**BA513 Data Mining and Knowledge Discovery**

*3 credit hours (3 hours of lecture)*

This course is designed for graduate students major in Business or Engineering who wishes to extract information and knowledge from captured data and make them useful for decision making and building system model. Data Mining is the entire process of applying methodologies and algorithms, including new techniques for Knowledge Discovery (KD) from data. Topics covered in this course are: Data Scaling and Smoothing, Dimension and Feature Reduction, Regression Analysis, Similarity Analysis, Statistical Data Mining, Cluster Analysis, Principle Component Analysis, Parameter Estimation and Optimization, Learning from Data through Artificial Neural Network Training, Global Optimum Search through Genetic Algorithms, Fuzzy Sets and Fuzzy Extension Principles to deal with imprecise information and Fuzzy Clustering Analysis.

*Prerequisite: BA585*

**BA514 Business Intelligence & Data Warehousing**

*3 credit hours (3 contact hours)*

This course is designed for graduate students major either in Computer Science or Business who wishes 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.

*Prerequisite: CS520*

**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 macroeconomic 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 advance graduate students in Science, engineering or Business fields to introduce them with 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 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: Graduate standing*

**BA531 International Financial Management**

*3 credit hours (3 hours of lecture)*

This course provides students with the history of 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*

**BA532 Investment Management**

*3 credit hours (3 hours of lecture)*

The course discusses the fundamentals of investment management, analysis tools to evaluate investment opportunities 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*

**BA533 Financial Modeling and Analysis**

*3 credit hours (3 hours of lecture)*

This course is designed to provide graduate students of business major with financial models, such as simulation models, optimization models as well as forecasting techniques that will assist financial managers with financial decisions. Topics to be covered are: Financial Planning and Modeling, Financial Statement and Cash Flow, Monte Carlo Simulation, Financial Statement Simulation, Multiple Regression Analysis, Time Trend Forecasting, Time Series Analysis and Forecasting, Value Modeling, Long-Term Assets Modeling, Working Capital Accounts Modeling, Optimization Techniques and Models for Financial Planning and Decision.

*Prerequisite: BA530*

**BA534 Derivatives and Risk Management**

*3 credit hours (3 hours of lecture)*

To develop a sound knowledge of option theory and a better understanding of the basic function of derivatives in risk management, and theoretical and practical applications in derivatives. Topics included are: 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: BA532*

**BA535 Financial Management**

*3 credit hours (3 hours of lecture)*

This course introduces the structure, markets and regulatory factors within the financial system. Develops basic skills in preparing financial plans/budgets, valuing capital costs, financial assets and evaluating the firm's capital structure, cost of capital, working capital, dividend policies, financing and investment decisions.

*Prerequisite: BA530*

**BA536 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.

*Prerequisite: BA500*

**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 business plan for a new company in the technology arena is an integral part of the course.

*Prerequisite: Graduate standing*

**BA542 Venture Capital**

*3 credit hours (3 hours of lecture)*

Many of America's most successful entrepreneurial companies have been substantially influenced by professionally managed venture capital. This relationship between the entrepreneur and the venture capitalist is examined from both perspectives. The course explores entrepreneurship with emphasis on forming and operating new business ventures. It covers crucial aspects of investigating new business opportunities.

*Prerequisite: None*

**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.

*Prerequisite: Graduate standing*

**BA549 Strategic Management**

3 credit hours (3 hours of lecture)

The primary objective of this course is to develop the ability to formulate competitive strategies. The course covers evaluation and formulation of organization's overall policies and strategies, analytical tools for strategic management, techniques for predicting industry and competitive evolution, as well as government, industry and other environment factors influencing competition.

*Prerequisite: Graduate standing*

**BA551 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 will 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, 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.

*Prerequisite: Graduate standing*

**BA555 Business Research Methods**

3 credit hours (3 hours of lecture)

This course will assist students in developing knowledge of business research methods, suitable for workplace application, to enable solutions and recommendations founded on legitimate and efficient data and information. Content includes the research process, research design, sources, collection, and analysis of data, and presentation of results and recommendations.

*Prerequisite: BA585*

**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*

**BA567 Social Network/Mobile Marketing**

3 credit hours (3 hours of lecture)

The course concentrates on the development of marketing strategies that utilize the networked environment increasingly dominated by Internet-based social groups of high connectivity. Stress will be given to generational differences, characteristics of leadership, relationship-based marketing, and functioning in the New Economy. Of particular interest will be virtual group dynamics and the impact on changing marketing approaches. The student will be encouraged to analyze how marketing and business practices are adapting to the global, post-industrial world.

*Prerequisite: BA460*

**BA581 Business Law**

3 credit hours (3 hours of lecture)

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

*Prerequisite: Graduate standing*

**BA585 Statistical Methods for Business Research**

3 credit hours (3 hours of lecture)

This course is designed for graduate students in 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.

*Prerequisite: Graduate standing*

**BA596 Special Topics in Business Administration**

3 credit hours (3 hours of lecture)

This course provides an opportunity for a faculty member to offer a relative new subject that is not currently available in the catalog, but is of great relevance 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)

To provide the graduate students with an opportunity of doing independent research works such that they can expose themselves of preparing research to their own interest. At the end, a written version of the thesis will be submitted to the thesis committee for review and comments.

*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)**

### **CPT491 Curricular Practical Training Project I**

*3 credit hours (3 contact hours)*

Curricular Practical Training (CPT) for undergraduates. Curricular practicum is to perform students' learned theory from their coursework in which students would be able to apply what they have learned in a real setting of working environment and participate in real world research experience. These kind 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 an integral part of an established curriculum; however, the credits earned from this course will not be counted as graduation requirement. 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. Student must receive approval by an academic advisor. Students must obtain a written agreement or an offer letter from 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 the other words; students who participate in CPT must relate their work to their study field. 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.

*Prerequisites: Upper Division Standing*

### **CPT492 Curricular Practical Training Project II**

*3 credit hours (3 contact hours)*

Curricular Practical Training (CPT) for undergraduates. Curricular practicum is to perform students' learned theory from their coursework in which students would be able to apply what they have learned in a real setting of working environment and participate in real world research experience. These kind 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 an integral part of an established curriculum; however, the credits earned from this course will not

be counted as graduation requirement. 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. Student must receive approval by an academic advisor. Students must obtain a written agreement or an offer letter from 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 the other words; students who participate in CPT must relate their work to their study field. 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.

*Prerequisites: Upper Division Standing*

### **CPT591 Curricular Practical Training Project I**

*3 credit hours (3 contact hours)*

Curricular Practical Training (CPT) for graduate students. Curricular practicum is to perform students' learned theory from their coursework in which students would be able to apply what they have learned in a real setting of working environment and participate in real world research experience. These kind 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 an integral part of an established curriculum; however, the credits earned from this course will not be counted as graduation requirement. 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. Student must receive approval by an academic advisor. Students must obtain a written agreement or an offer letter from 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 the other words; students who participate in CPT must relate their work to their study field. 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.

*Prerequisites: Graduate Standing*

### **CPT592 Curricular Practical Training Project II**

*3 credit hours (3 contact hours)*

Curricular Practical Training (CPT) for graduate students. Curricular practicum is to perform students' learned theory from their coursework in which students would be able to apply what they have learned in a real setting of working environment and participate in real world research experience. These kind 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 an integral part of an established curriculum; however, the credits earned from this course will not be counted as graduation requirement. 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. Student must receive approval by an academic advisor. Students must obtain a written agreement or an offer letter from 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 the other words; students who participate in CPT must relate their work to their study field. 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.

*Prerequisites: Graduate Standing*

## **ENGLISH AS A SECOND LANGUAGE (ESL) COURSES**

### **ESL150 - ESL200 (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, and learning about and seeing new places.”

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

#### **ESL150LS - ESL200LS: 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.

*Prerequisites: English Placement Test*

#### **ESL150RW - ESL200RW: Reading and Writing**

*80 minutes lecture (5 lectures per week)*

These courses will prepare students to maintain a vocabulary for “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 familiar with everyday cultural themes.

*Prerequisites: English Placement Test*

#### **ESL150CP - ESL200CP: 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, skits, role-plays, dialogues, interviews, cross-word puzzles, and other engaging activities. The goal of this class is to encourage thinking in English rather than translation from the native language and to reach between speaking in words, and phrases to 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, going to grocery shopping, taking a public transportation, local sightseeing, mailing a parcel, buying a car, answering advertisement, paying bills, going to a restaurant, and meeting with Americans for the first time.

*Prerequisites: English Placement Test*

## **ESL250 - ESL300 (Intermediate Level)**

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 build confidence and engagement in English by deepening student confidence in their conversational ability. For example, students deepen 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, to routinely discuss daily life with peers, and how to meet and converse with people.

#### **ESL250LS - ESL300LS: 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. 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 pre-taught as mini-lectures to engage students and expand their listening ability. The internet is used by teacher to supplement their own pre-taught mini-lectures.

*Prerequisites: ESL200LS (or equivalent)*

#### **ESL250RW - ESL300RW: Reading and Writing**

*80 minutes lecture (5 lectures per week)*

These courses are designed to prepare students to develop reading and writing skills. Students learn about reading strategies, gain fluency, increase vocabulary and reading comprehension, and learn solid paragraph writing.

*Prerequisites: ESL200RW (or equivalent)*

#### **ESL250CP - ESL300CP: 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 used of internet serve as methods for guiding authentic learning. Students are asked to write dialogues and present them during the class.

*Prerequisites: ESL200CP (or equivalent)*

### **ESL350 - ESL400 (Advanced Level)**

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 and educative and communicated 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 the world they inhabit and communicate in writing and speaking in ways that allow for linguistic versatility from informal speech to formal academic work. This includes knowledge of how to use English internet sites for research projects and forming data into coherent multimedia presentations. Another feature is building student confidence as mentor-tutors to basic and intermediate level students.

#### **ESL350LS - ESL400LS: 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 the 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 pre-taught as mini-lectures to engage students. The internet is used by teacher and student as a research tool to enhance topical understanding and interest.

*Prerequisites: ESL300LS (or equivalent)*

#### **ESL350RW - ESL400RW: Reading and Writing**

*80 minutes lecture (5 lectures per week)*

The purpose of these courses is to develop reading and writing skills of the students. This course is coordinated with the speaking and listening class such that writing topics correspond by chapter and lectures. The course emphasizes critical thinking and expression of complex thought in writing as preparation for academic work.

*Prerequisites: ESL300RW (or equivalent)*

#### **ESL350CP - ESL400CP: Conversation and Pronunciation**

*80 minutes lecture (5 lectures per week)*

In these courses, students speak only English by conducting research on line and in the community to develop multimedia presentations on current events and topics of social importance and compare across countries for similarities and differences. Original studies in the university community and using data collection with written and oral surveys will be encouraged.

*Prerequisites: ESL300CP (or equivalent)*

## **UNIVERSITY ADMINISTRATION**

**Dr. Jerry Shiao**

University President and Chief Executive Officer

**Dr. Chun-Mou Peng**

Academic Dean

**Dr. Eugene Chang**

Computer Engineering/Computer Science Program Director

**Dr. Laura Uden**

Business Administration Program Director

**Mr. Kevin Cheng**

Human Resource Manager/Registrar

**Ms. Nico Cheng**

Office Manager

**Mr. Thomas Huang**

Information Technology Manager

**Mr. Kevin Chan**

Facility Manager

**Ms. Elsie Yu**

President's Executive Assistant

**Mr. Eric Wang**

Information Technology/Database Administrator

**Mr. Gary Lin**

Student Affairs Officer

**Mr. Ivan Zhao**

Business Marketing Affairs Officer

**Ms. Queenie Luo**

International Students Recruiting Officer

**Mr. Dineshreddy Bandi**

International Student Service Coordinator

## **UNIVERSITY FACULTY MEMBERS**

### **Edward Bell**

Associate Professor  
M.B.A., University of California - Berkeley, Haas School of Business, Berkeley, California (1981)  
B.S. in Business Administration, University of California - Berkeley, Berkeley, California (1974)  
CPA license (1978)  
Expertise: Accounting.

### **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, Cryptology.

### **Cameron C Bilger**

Associate Professor  
Ph.D. London School of Economics and Political Science, London, United Kingdom (1990)  
M.B.A., The Citadel, Charleston, South Carolina (1982)  
AB, Dartmouth – Honors Program with Distinction Leningrad State University Study Program (1980)  
Expertise: Economics, International Marketing, Strategic Marketing, International Business.

### **Yuh-Lin (Eugene) Chang**

Associate Professor  
Ph.D. in Computer Engineering, University of Texas, Austin, Texas (1993)  
M.S. in Electrical Engineering, University of California - Santa Barbara, Santa Barbara, California (1988)  
B.S. in Electrical Engineering, National Taiwan University, Taipei, Taiwan (1984)  
Expertise: Digital Image Processing, Embedded System Design, System on Chip (SOC) Design, Object Oriented Design Software Architecture and Implementation.

### **Kevin Cheng**

Senior Lecturer  
M.B.A., Silicon Valley University, San Jose, California (2007)  
B.A. in Economics, University of California, Davis, California (2000)  
Expertise: Economics, Finance, Accounting

### **Diane Cheponis**

Associate Professor  
J.D., Golden Gate University, San Francisco, California (1979)  
B.A., California State University - Los Angeles, Los Angeles, California (1969)  
Expertise: English as Second Language, and Business Communications.

### **Melvin Cobb**

Associate Professor  
M.S. in Information and Computer Science, University of Hawaii, Honolulu, Hawaii (1983)  
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.

### **Aaron Donsky**

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

### **Ahmed Ezzat**

Professor  
Ph.D. in Computer Science, University of New Hampshire, Durham, New Hampshire (1982)  
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