Silicon Valley University

2020 Catalog

January 1st, 2020 to December 31st, 2020

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SVU 2020 ACADEMIC CALENDAR

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SPRING 2020		< JANUARY 3 – APRIL 25, 2020 >
JANUARY		
3	Fri	New Student Orientation
6	Mon	Classes begin
17	Fri	Last day to add/drop courses
FEBRUARY		
17	Mon	President's Day (campus closed)
MARCH		
13	Fri	Last day for graduation petition
APRIL		
06	Mon	Pre-registration for Summer Trimester 2020
13 – 18	Mon-Sat	Final examinations
18	Sat	Last day of classes
SUMMER 2020		< MAY 11 – AUGUST 22, 2020 >
MAY		
01	Fri	New Student Orientation
04	Mon	Classes begin (Regular and *1 st Summer Intensive session)
15	Fri	Last day to add/drop courses
25	Mon	Memorial Day (campus closed)
JUNE		
29-July 01	Mon-Wed	* Final examinations for 1st Summer Intensive session
JULY		
01	Wed	* 1 st Summer Intensive session ends
02	Thu	* 2 nd Summer Intensive session starts
04	Sat	Independence Day (campus closed)
10	Fri	Last day for graduation petition
AUGUST		
03	Mon	Pre-registration for Fall Trimester 2015
10 - 15	Mon-Sat	Final examinations
15	G i	

FALL 2020		< SEPTEMBER 8 – DECEMBER 19, 2020 >
AUGUST		
28	Fri	New Student Orientation
31	Mon	Classes begin
SEPTEMBER		
07	Mon	Labor Day (campus closed)
18	Fri	Last day to add/drop courses
OCTOBER		
NOVEMBER		
06	Fri	Last day for graduation petition
26 - 27	Thurs-Fri	Thanksgiving Holidays (campus closed)
30	Mon	Pre-registration for Spring Trimester 2016
DECEMBER		
07-12	Mon-Sat	Final examinations
12	Sat	Last day of classes

Last day of classes

Graduation Ceremony

Sat

Sat

*Summer Intensive Session consists of core and pre-requisite courses which will be taught in 7½ weeks. Students are required to attend classes twice a week instead of once per week.

THE UNIVERSITY

Mission & Goals

The primary mission of Silicon Valley University (SVU) is to provide excellent educational programs to equip and prepare students with the right set of knowledge and skills for careers in the high tech industry,

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

- Provide students with faculty who are experts in their field and are currently working in the high tech industry sectors;
- Provide students with a learning environment that utilizes the latest available technology in use in the work place;
- 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; promote entrepreneurship by encouraging innovations and new ideas for business initiatives and product development.

Campus Description

SVU is located in Silicon Valley (San Jose, California), the hub of the US high-tech industry and global business. The university occupies space in a Class A office building. The 35,000 square foot office space consists of classrooms for delivery of multimedia large presentations to large groups and smaller classrooms for small-group discussions. Other facilities of the university include the Learning Resource Center / Library, Computer Lab, Conference Rooms, Recreation Room, and Student's break area which are all available for students during school hours. The Student Office and other administrative offices provide needful assistance to students 5 days a week.

university offers state-of-the-art computer The equipment, access to the campus network and the internet in its labs, classrooms, and Learning Resource Center / Library. Majority of the classrooms are equipped with build-in speakers, Multimedia Projector, SONY Audio Amplifier, and DELL All-In-One PC. The lab is equipped with computer and networking equipment made available to the student. These include DELL All-In-One PCs, DELL Tower PCs, Raspberry PI SoCs, DELL LCD Monitors, DELL PowerEdge Server, TP-LINK Gigabit Ethernet Switches, NETGEAR 100/1000 Switches, and Ruckus Wireless Access Point Router. The Learning Resource Center / Library is equipped with DELL All-In-One PCs, and Laser quality printers/copiers.

Mobile Internet Services

To support mobile internet and cloud computing, the whole digital campus is fully covered by 802.11 a/b/g/n Wi-Fi access points back-hauled to FE/GE/10-GE backbone network switch hierarchic in the 7/24 air-conditioned private data center.

Via Wi-Fi access point and backbone switch infrastructure plus internet, students, faculty, and staff can use mobile internet devices (i.e., Apple iPad, Apple iPhone, Android Tablet, Android Phone, MacBook Air, Google Tablet, Ultrabook, or Microsoft Surface) to access cloud computing inside the whole campus. When the license is permitted through proxy servers, students can then access any software tools from anywhere at any time. Student's learning experience cannot be made easier with all these services.

INSTRUCTIONAL RESOURCES

To help students obtain competitive advantages in the real working environments from classrooms and to help students to acquire the knowledge through hands-on modern methodology effectively and efficiently, SVU participates in many university programs provided by the leading companies in their industries, such as Apple, Microsoft, Oracle, SAP and Google. Students who learn the usage of the emerging tools in the real world can definitely grant themselves better job opportunities. SVU's instructional resources aim to do just that.

<u>Apple iOS Developer University Program</u> <u>Membership</u>

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

Microsoft Azure for Education Membership

SVU has subscribed to Microsoft Azure for Education membership to make the latest Microsoft software available in labs and classrooms. The Microsoft Azure program offers Microsoft developer tools for Science, Technology, Engineering, and Math (STEM) fields, including the up-to-date Visual Studio, Windows Operating Systems, Windows Server, .NET Framework, computer cluster server, SQL server, Mobile SDK and more than 300 tools.

Oracle Academy Membership

SVU is a member of Oracle Academy. SVU provides Oracle 11g Real Application Cluster (RAC) Enterprise version database to students and faculty. Oracle RAC database services is a shared cache clustered database architecture that overcomes the limitations of traditional shared-nothing and shared-disk architectures for unbeatable database performance, scalability and reliability without requiring changes to existing Oracle Database applications. Oracle RAC has been successfully deployed by thousands of Oracle customers, allowing these customers to use clustered database servers for a simplified, efficient and successful delivery of Database Services on the Cloud.

<u>Higher Education User Group and University</u> <u>Alliance Program of SAP Membership</u>

SVU has formed a membership with Higher Education User Group (HEUG) and University Alliance Program offered by SAP (Acronym of Systems, Applications, and Products in Data Processing) North America to use the tools from SAP software for faculty members and students to enhance the academic and professional learning outcomes.

Google G Suite

SVU partnered with Google G Suite, a cloud productivity suite containing a collection of enterprisebased products accessible anywhere through the cloud. G Suite core set of applications include Gmail, Calendar, Drive, Docs, Sheets, Slides, Forms, Google+, Hangouts Meet, Hangouts Chat, Sites, and Groups. Students can collaborate with each other, SVU instructors, and SVU administration, while maintaining a highly secure, reliable, and compliant environment for SVU.

Data Communication/Telecommunication

SVU offers a state-of-the-art network equipment such as Cisco routers, Dell switches, Linksys wireless routers, Apple Computer wireless routers, Cisco VPN remote access servers. Students can access these resources from any onsite networked workstation or remote to configure or control those equipment.

Linux/Unix Private Cluster Node

The Linux/Unix system is provided to students in labs to understand the cloud computing paradigm and framework. The cloud computing infrastructure can be used for sharing, scheduling, reliability, availability, elasticity, privacy, provisioning and geographic replication.

Learning Resource Center / Library

As part of its effort to provide instruction using the latest internet technologies, the university has established a web-based Learning Resource Center. The center is a digital research facility, created to provide faculty members and students with the opportunity to make the most use of vast information resources available on the internet.

The university has an onsite library which contains publications in the fields of Computer Science and Engineering, and General Education. The library has thousands of hard copy publications in its collections. The onsite library's catalog can be accessed through SVU's e-Library.

Both faculty members and students have access to SVU's Learning Resource Center and SVU's e-Library, at <u>www.svuca.edu</u>. Users will follow the Library & Research link from the Academics link to access major professional journals and scholarly articles through nationally acclaimed databases such as ProQuest, ACM, and IEEE. There are links to Reference Websites, i.e. journals, management library, programming textbooks, and U.S. Government homepage. To use SVU's e-Library to access the onsite library catalog, the user will have to login with the User ID/Password that was assigned and approved by the SVU librarian.

The university Learning Resource Center / Library serves its students and faculty free of charge. There are public PCs that can be used to access SVU's Learning Research Center and e-Library or access the internet for research. Students are expected to follow the university library policy while using these resources.

Learning Resource Center / Library Hours: Monday through Friday: 11 am to 7 pm

SVU students have convenient access to a number of excellent libraries including San Jose Public Library, San Jose State University (SJSU) and Cal State University East Bay (CSUEB). The Learning Resource Center has links to the San Jose Public Library and SJSU library. Students can also obtain free library cards from the Alameda County and Santa Clara County public library system and make use of the Link+ unified catalog system as well.

student enrolled in a non-accredited institution is not eligible for federal financial aid programs.

ACCREDITATION AND APPROVAL STATUS

SVU is a private post-secondary institution and has been working on getting Institutional Approval by the 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

Following approval by BPPE, the approval to operate means compliance with state standards as set forth in the California Education Code. This does not imply that BPPE endorses SVU programs, or that BPPE approval means SVU exceeds minimum state standards.

Any questions a student may have regarding this catalog that have not been satisfactorily answered by the institution may be directed to the Bureau for Private Postsecondary Education at 2535 Capitol Oaks Drive, Suite 400, Sacramento, CA 95833, www.bppe.ca.gov, (888) 370-7589, or by fax (916) 263-1897.

A student or any member of the public may file a complaint about this institution with the Bureau for Private Postsecondary Education by calling (888) 370-7589 or by completing the complaint form, which can be obtained on the bureau's internet Web site address www.bppe.ca.gov.

SVU will be working on meeting the criteria for accreditation status from the Accrediting Council for Independent Colleges and Schools (ACICS). ACICS is recognized as an accrediting agency by the U.S. Department of Education and the Council for Higher Education Accreditation (CHEA).

Before the ACICS accreditation activity is completed, SVU's operation as a non-accredited institution has some limitations for the graduate of SVU's degree program. Certain employers may tend to perceive the lack of accreditation differently than others. For the most part, employers tend to view accredited programs as typically being ones to prioritize more compliance with college and university-level standards. While different higher education programs will oftentimes vary in the thoroughness of their curricula, a fair amount of employers may tend to assume that accredited programs are of a higher caliber than the unaccredited program. A degree program that is non-accredited is not recognized for some employment positions, including, but not limited to, positions with the State of California. A

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

President of SVU San Jose, California Chairman of the Board

Dr. Len-Yi Leu

Former Deputy Director of TSMC Cupertino, California Secretary of the Board

UNIVERSITY PROGRAMS

Degree Programs

Master of Science in Computer Science (MSCS)

Delivery of Instruction

SVU offers a hybrid mode of instruction for the MSCS program. The hybrid mode of delivery combines live online instructions and onsite instructions for the class.

Live Online Instructions

The online instructions are offered live and provided through a Learning Management System (LMS) utilizing ZOOM Education Platform. The live online instructions are synchronous events where the students and instructor meet together at the same time to communicate with voice, video, and whiteboard.

Onsite Instructions

The onsite instructions are face-to-face interactions, with the instructor in the room with the students. The onsite instructions will also be delivered through the LMS, allowing students to engage either onsite or online. For each class, the Academic Dean will determine the frequency of each onsite sessions, dependent on the needs of the students. Lab classes are required to be onsite.

Learning Management System (LMS)

SVU's Learning Management System (LMS) utilizes ZOOM Education Platform. The LMS allows SVU to track student engagement, i.e. usage, attendance, and attention. The closed captioning allows all students to participate equally. The LMS securely provides students with the means to collaborate on projects, study groups, and engage with each other through chat rooms. Students also has more effective engagement with the instructor and students would more likely use SVU services, i.e. tutoring, student advising, and career counseling services. LMS provides the capability to shares all course materials, consisting of lecture slides, homework assignments, quizzes, class presentations, readings and supplementary materials, and other class assignments. The LMS will maintain a record of the dates on which lessons, projects, and dissertations were received and when responses were returned to each student.

The hybrid mode of delivery requires the student to be familiar with the internet and use common internet applications, i.e. email, an editor, and PowerPoint. The student must be able to download files, install applications, update applications, and be aware of potential network/file viruses. The student must have access to the following system requirements:

- An internet connection, broadband wired or wireless.
- Speakers, microphone, and webcam.
- Operating System: Windows 10/8/7 or Mac OS or Red Hat Linux or CentOS or Fedora or OpenSUSE systems.
- Browser: Windows Internet Explorer or Edge or Firefox or Chrome. Mac Safari, Firefox, and Chrome. Linux Firefox or Chrome.
- Optional Tablet and Mobile Devices: iOS and Android devices.

The student will be given a list of system requirements, and the student must sign to acknowledge he/she has the resources to succeed in SVU's hybrid MSCS program.

ADMISSION TO THE UNIVERSITY

MSCS Admission Requirements

SVU is an equal opportunity institution. Graduation from 4-year colleges 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 the MSCS program 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." SVU also accepts payment using <u>www.PayPal.com</u>, through SVU's PayPal ID, <u>paypal@svuca.edu</u>.
- **B)** Students planning to attend SVU must submit their application material and associated documents before the deadlines posted in the academic calendar. Each trimester has a separate deadline.
- **C)** All applicants must hold a Bachelor of Arts, a Bachelor of Science, or an equivalent degree from an accredited or approved college or university to be admitted to the MSCS program at SVU. All official transcript with the student's baccalaureate degree must be submitted to the university for evaluation, with a minimum GPA of 2.5/4.0.
- **D)** Submit the completed application form with attached \$75 USD application fee and mail to the Admissions Office.

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

Applicants must also provide:

- A) Official documentation of all courses taken and grades received (transcripts of records) from each secondary, undergraduate and postgraduate institution attended. Transcripts of records should be issued in English or must be accompanied by notarized English translations.
- **B)** Official certification of degrees and dates awarded, issued in the original language. Academic transcripts of records must have a seal and signature in ink from the institution's authorized official, such as a registrar.

Students holding foreign degrees must make arrangements with SVU administration to have prior credit hours evaluated for equivalency. Contact SVU for further information regarding his process.

- C) Applicants whose native language is not English must demonstrate their English proficiency by providing an official score report from the Test of English as a Foreign Language (TOEFL®), International English Language Testing System (IELTSTM), or the Test of English for International Communication (TOEIC®).
- D) Applicants who have earned a degree from an institute where the language of instruction is English, (e.g. United Kingdom, Australia, Canada and New Zealand) are exempt from submitting a TOEFL®/IELTSTM/TOEIC® score.

Instructions for Submitting English Test Result

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

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

IELTS™ INTERNATIONAL 825 Colorado Boulevard, Suite 112 Los Angeles, CA 90041 Website: www.ielts.org Email: IELTS@IELTSintl.org TOEIC® TOEIC Service International TOEIC Testing Program Educational Testing Service Rosedale Road Princeton, NJ 08541 USA Website: www.ets.org/toeic Email: TOEIC@ets.org

English Proficiency

Applicants of Silicon Valley University (SVU) whose native language is not English have to demonstrate an established level of English language proficiency through one of the following tests: the TOEFL® (Test of English as a Foreign Language), the academic format of the IELTSTM (International English Language Testing System), or the TOEIC® (Test of English for International Communication), etc.

- The TOEFL® Test Test of English as a Foreign Language. The TOEFL® test is the most widely accepted English-language test in the world.
- IELTSTM 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 individuals who intend to study or work where English is the language of communication.
- The TOEIC® Test Test of English for International Communication. The TOEIC® test provides reliable measurement of English proficiency and is used by hundreds of companies, government agencies, and English language learning programs.

The test must be recent; it should be within two years of the time applying. The original test scores are required to be submitted to SVU by applicants, either in person or by mail.

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

Degree	Institutional TOEFL®	Internet- based TOEFL®	IELTSTM	TOEIC®
Master	525	71	6.0	680

Applicants who have not taken the TOEFL®, IELTSTM, or TOEIC® test, or those who have not passed the proficiency requirements stated above, will be required to take the TOEFL®, IELTSTM, or TOEIC® at Test Centers.

The new scores must exceed the minimum required.

WaivingtheTOEFL®/IELTSTM/TOEIC®Requirements

International applicants who have earned Bachelor's or higher degrees from English-speaking accredited institutions in the U.S., United Kingdom, Australia, Canada and New Zealand do not have to submit TOEFL®/IELTSTM/TOEIC® scores.

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

Master's Transfer Requirements

SVU will evaluate graduate academic credit for course equivalences from institutions of higher learning and accredited by agencies recognized by the United States Department of Education. Students must request that transcripts from the accredited institutions in which they have previously attended be sent to the Student Office for evaluation. The procedure for course equivalence is defined in the Evaluation of Transfer Credits. SVU will accept a maximum of 6 credits transferred for the MSCS program. All transfer course work require an overall grade point average of "B-", 2.7 on a 4.0 scale. Letter grades and GPA are not transferrable.

SVU has not entered into an articulation or transfer agreement with any other college or university. SVU does not currently enroll any students pursuant to a transfer or articulation agreement with another institution, nor does it have any transfer or articulation agreements with other institutions to accept credits from SVU.

Evaluation of Transfer Credits

The evaluation of academic credits will be performed by the Dean or Program Administrator. The Dean will use the syllabi from the transferring institution and the SVU syllabi to determine course equivalency. The Dean or Program Administrator will:

- Compare the course description of the syllabus of the transfer course with the course description of the syllabus of an equivalent course in SVU.
- Allow the maximum of 3 credits for a lecture course.
- Allow a lab course to be transferred only if the lab course has a lecture course that is transferred. The maximum number of credit is 1 for a lab course.
- After course equivalence is determined, only the credit is transferred. The grade from the transferred class is not used in the student's cumulative GPA.

The student has the option to petition the transfer of credits by meeting with the Dean or Program Administrator during the student's first trimester at SVU. The student must bring documentation (course syllabus) to support the challenge. After the first trimester SVU will not accept petitions for re-evaluation of the transfer of credits.

TUITION AND FEES

SVU reserves the right to increase or modify any listed fees, and fees are subject to change within one trimester's notice. All SVU fees are subject to change upon approval by the Board of Trustees.

Tuition for Master's Programs

Tuition	\$ 425 per credit hour
Laboratory Course Fee	\$ 425 per credit hour

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

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

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

Estimated Fees

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

Other Fees and Expenses

Registration Fee (Non-Refundable)	\$	75	per
trimester Learning Resource Fee (Non-Refundable) trimester	\$	200	per
Student Association Fee (Non-Refundable)	\$	50	per
trimester			
Application fee	\$	75	
Installment Fee (Non-refundable)	\$:	50	
Late Registration	\$	75	
Regular Document Processing Fee	\$	10-25	
Urgent Request Fee	\$	25	
Non-Registered Student In-Out Fee	\$.	325	
Official Transcript Request	•	10	
Pick Up/ Domestic Mail	-	10	
(Each additional copy is \$10 extra.			
Priority Mail	-	35	
(Each additional copy is \$10 extra.			
International Mail	-	60	
(Each additional copy is \$10 extra.)		
(Mailing costs may be higher dependence)	ndi	ng	

An additional fee will be added for Express De	elive	ery
Late Payment Fee	\$	100
Add/Drop Course Fee	\$	25
Late Add/Drop Course Fee	\$	50
Graduation Fee	\$	275

on destinations.)

Student ID Card Replacement	\$	25
Returned Check Fee (Depending on bank fees)		
\$ 35	or n	nore
Remittance in/out	\$	50
Deferred Admission	\$	50

There is a 2.75% fee for credit/debit card transactions.

Estimated Total Charges for a Period of Attendance

<u>Estimated Total Charges for a Period of Attendance (</u> <u>Trimester</u>)

MSCS Total:	\$4818
Tuition:	\$3825
Fees:	\$408
Textbooks:	\$350
Health Insuranc	e: \$235

Estimated Total Charges for the Entire Educational Program

MSCS Total:	\$19,275
Tuition:	\$16,300
Fees:	\$1635
Textbooks:	\$1400
Health Insurance	e: \$940

Accepted Payments

Cash, Cashier Check, Money Order, Demand Draft, VISA, Master Card, Debit Card and using <u>www.PayPal.com</u> through SVU's PayPal ID, paypal@svuca.edu.

(NO PERSONAL CHECKS)

CANCELLATION AND REFUND POLICIES

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

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

Buyer's Right to Cancel

You have the right to cancel the enrollment agreement and obtain a refund. If the notice of cancellation is made prior to, or on, the first day of instruction, the institution shall issue a 100% refund less a reasonable deposit. Application fee is NON-REFUNDABLE. Cancellation shall occur when you submit a written notice of cancellation to the university by mail, bank delivery, or telegram. The written notice of cancellation, if sent by mail, is effective when deposited in the mail properly addressed with prepaid postage.

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

Refund Information: You may withdraw from a course after instruction has started and receive a pro-rata refund for the unused portion of the tuition and other refundable charges before the end of 7^{th} week of the instruction. Starting at the 8^{th} week of the instruction, if a student withdraws from any course, no tuition will be refunded.

Refund Schedule

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

Student Tuition Recovery Fund

The State of California established the Student Tuition Recovery Fund (STRF) to relieve or mitigate economic loss suffered by a student in an educational program at a qualifying institution, who is or was a California resident while enrolled, or was enrolled in a residency program, if the student enrolled in the institution, prepaid tuition, and suffered an economic loss. Unless relieved of the obligation to do so, you must pay the state-imposed assessment for the STRF, or it must be paid on your behalf, if you are a student in an educational program, who is a California resident, or are enrolled in a residency program, and prepay all or part of your tuition.

You are not eligible for protection from the STRF and you are not required to pay the STRF assessment, if you are not a California resident, or are not enrolled in a residency program.

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

Bureau for Private Postsecondary Education

2535 Capitol Oaks Drive, Suite 400 Sacramento, CA 95833 (916) 431-6959 or (888) 370-7589

To be eligible for STRF, you must be a California resident or enrolled in a residency program, prepaid tuition, paid or deemed to have paid the STRF assessment, and suffered an economic loss as a result of any of the following:

1. The institution, a location of the institution, or an educational program offered by the institution was closed or discontinued, and you did not choose to participate in a teach-out plan approved by the Bureau or did not complete a chosen teach-out plan approved by the Bureau.

2. You were enrolled at an institution or a location of the institution within the 120-day period before the closure of the institution or location of the institution, or were enrolled in an educational program within the 120 day period before the program was discontinued.

3. You were enrolled at an institution or a location of the institution more than 120 days before the closure of the institution or location of the institution, in an educational program offered by the institution as to which the Bureau determined there was a significant decline in the quality or value of the program more than 120 days before closure.

4. The institution has been ordered to pay a refund by the Bureau but has failed to do so.

5. The institution has failed to pay or reimburse loan proceeds under a federal student loan program as required by law, or has failed to pay or reimburse proceeds received by the institution in excess of tuition and other costs.

6. You have been awarded restitution, a refund, or other monetary award by an arbitrator or court, based on a violation of this chapter by an institution or representative of an institution, but have been unable to collect the award from the institution.

7. You sought legal counsel that resulted in the cancellation of one or more of your student loans and have an invoice for services rendered and evidence of the cancellation of the student loan or loans.

To qualify for STRF reimbursement, the application must be received within four (4) years from the date of the action or event that made the student eligible for recovery from STRF.

A student whose loan is revived by a loan holder or debt collector after a period of non collecting may, at any time, file a written application for recovery from STRF for the debt that would have otherwise been eligible for recovery. If it has been more than four (4) years since the action or event that made the student eligible, the student must have filed a written application for recovery within the original four (4) year period, unless the period has been extended by another act of law.

However, no claim can be paid to any student without a social security number or a taxpayer identification number.

SVU has not filed bankruptcy, is not operating as a debtor in possession, has not filed a petition within the preceding 5 years, nor has had a petition in bankruptcy filed against in within the preceding 5 years that resulted in re- organization under Chapter 11 of the United States Bankruptcy Code.

ACADEMIC POLICIES AND REGULATIONS

Registration

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

All onsite class sessions are held on SVU campus located at:

2010 Fortune Drive San Jose, CA 95131

Health Insurance

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

Students' Academic Advising

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

Professional Behavior and Demeanor

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

GRADING POLICY

<u>General</u>

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

Evaluation Methods

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

- A) Written examinations based on analytical or logic based 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.

Evaluation to student's work in online classes is returned to the student within 10 days after the student's work is received by the instructor.

Review of Examinations

Examinations are graded by the faculty and are usually returned to students within seven days. Questions of the examinations are kept on file for 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 studentachieved grades by the student completing the necessary requirements within two trimesters or it will be converted to an F. An up-to-date summary of student performance is maintained in the Student Office and is available to students for review. Final course grades are given based on the four-point letter system, as follows:

Letter Grade	Grade Points
A+	4.3
А	4.0
A-	3.7
B+	3.3
В	3.0
B-	2.7
C+	2.3
С	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 Drop a course after the eighth week. The class credits and grade will not be used in the cumulative GPA calculation.
- I: Incomplete Satisfactory performance, but could not complete the course due to special circumstances. The class credits and grade will not be used in the cumulative GPA calculation.
- W: Withdrawal Authorization to drop a course before the end of eighth week. The class credits and grade will not be used in the cumulative GPA calculation.
- AU: Audit Students was enrolled on a non-credit basis. A Non-Credit course has zero credits and the grade does not count towards the cumulative GPA calculation.
- **CR:** Credit by examination Credit = grade "C" or better
- **TR**: Transfer credit Only the credits are transferred. The grade is not transferred.
- NC: No Credit Failure 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:** Repeating the course; previous grade is replaced and will not count toward graduation credits or cumulative GPA.

Dean's Honors

Excellence in scholastic achievement is recognized each trimester by the compilation of a Dean's List. A MSCS 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 Grades

In circumstances where a student is unable to complete the coursework required prior to the end of the trimester, the student may, with the instructor's approval, file a petition to receive a grade of Incomplete. Incomplete grades will be indicated by a mark of "I" on the student's grade report and transcript until the student either successfully completes the course requirements (at which time the "I" will be changed to a letter grade) or fails to complete the course requirements (at which time the "I" will be changed to an "F").

An incomplete will not have class credit and grade count towards the cumulative GPA calculation in the trimester in which is given. 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 so 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.

ACADEMIC PROGRESS

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

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

Attendance Policy

Attendance in an online or onsite class is required for all students. There is a correlation between student attendance and student retention, achievement, and success. Any class or lab session missed reduces the opportunity for learning and may adversely affect a student's achievement.

If a student is absent, the student is still required to complete class assignments and the student must maintain communication with the instructor. A student failing to attend three classes is required to meet with the Academic Advisor. A student failing to attend more than four classes is required to meet with the Associate Academic Dean and the student may be withdrawn from the class, based on the decision of the Associate Academic Dean.

Online Attendance

Online classes are given live, and follow the class schedule given each trimester. The LMS will record student's engagement with the course during the scheduled time for the class.

Onsite Attendance

SVU takes attendance during class and requires student attendance in order for students to remain enrolled in a class. SVU requires that instructors take and report student attendance.

Standards of Satisfactory Academic Progress

All students must maintain Satisfactory Academic Progress (SAP) over the course of their study at SVU. Students will undergo SAP evaluations several times during their attendance at SVU. SAP evaluations will be based upon the following criteria:

- A) Every trimester, the student must maintain a cumulative GPA of 3.0 or above for graduate students.
- B) After each academic year, the student's course completion percentage must be at or above 70%. Also, the student must maintain a cumulative GPA of 3.0 for graduate students.
- C) After attempting 50% of the normal program length, the student's course completion percentage must be

at or above 70%. Also, the student must maintain a cumulative GPA of 3.0 for graduate students.

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. The number of credits includes all transferred credits from institutions accredited by agencies recognized by the United States Department of Education.

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 Progress 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.

The "D" or "U" grade and credit would have been used in the cumulative GPA calculation.

Academic Probation

Should a student fail to meet the requirements set by the SAP evaluation, they will be placed on Academic Probation. Academic Probation is defined as a period of time in which a student will be kept under strict scrutiny by an academic advisor to determine if they are able to meet SVU academic requirements to remain in good standing with the university. Failure to satisfactorily complete academic probation will result in disqualification from SVU.

If a student fails to meet SAP, the following procedures must be followed:

- A) Students will receive an email notice informing them that they have been placed on Academic Probation.
- B) Within two weeks of receiving the email notice, students will be required to meet with an advisor to discuss their probation. Failure to do so will prevent a student from registering for classes.
- **C)** Prior to meeting with the advisor, students must pick up the Academic Probation Letter, Academic Probation Advising Form, and unofficial transcript from the Student Office.
- **D)** At the advising session, students will be instructed on what actions they must take to clear their probation status.

The Academic Probation period is two trimesters from the trimester in which the student was placed on Academic Probation. During the probation study plan, the student will be allowed to take maximum 3 classes for the graduate programs.

After the Academic Probation period, the student must meet the SAP Evaluation criteria, or the student will be subject to dismissal.

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 regard 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.

Withdraw

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

Readmission for students withdrawing in good standing is not assured unless it is part of the final agreement made between the Academic Dean and the withdrawing student. This final agreement must be in writing so that it is clear to all parties involved. Students who have not withdrawn in good standing may request readmission through the university's admissions application process. The Admissions Committee will evaluate the student's entire academic record and make a recommendation to the Academic Dean.

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.

<u>Notice Concerning Transferability of Credits and</u> <u>Credentials Earned at our Institution</u>

The transferability of credits you earn at SVU is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the degree you earn in the educational program is also at the complete discretion of the institution to which you may seek to transfer. If the credits and degree that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason, you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending SVU to determine if your credits and degree will transfer.

EDUCATIONAL RECORDS

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

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

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

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

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

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

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

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

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

RECORDKEEPING

The Custodian of Records for the student academic records is the Registrar.

1. Required Student Records

SVU shall maintain the following records for each enrolled student:

- Student's name.
- Student's physical address.
- Student's email address.
- Student's telephone number.

SVU shall maintain, for each student granted a degree by that institution, permanent records of all of the following:

- The degree granted and the date on which that degree was granted.
- The courses and units on which the degree was based.
- The grades earned by the student in each of those courses.

2. Required Institutional Records

SVU shall maintain, for a period of not less than five years, at its principal place of business in this state, complete and accurate records of all of the following information:

- The educational programs offered by SVU and the curriculum for each.
- The names and addresses of the members of the institution's faculty and records of the educational qualifications of each member of the faculty.
- Any other records required to be maintained by BPPE, including, but not limited to, records maintained pursuant to Article 16 of the California Private Postsecondary Education Act of 2009.

3. Student Records

SVU shall maintain a file for each student who enrolls whether or not the student completes the educational service. In addition to Required Student Records information, the file shall contain all of the following pertinent student records:

- Written records and transcripts of any formal education or training, testing, or experience that are relevant to the student's qualifications for admission or the award of credit or acceptance of transfer credits including the following:
 - Verification of high school completion or equivalency or other documentation establishing the student's ability to do college level work, such as successful completion of an ability-to-benefit test.
 - Records documenting units of credit earned at other institutions that have been accepted and applied by the institution as transfer credits toward the student's completion of an educational program.
 - Grades or findings from any educational achievement used for admission or college placement purposes.
- Personal information regarding a student's age, gender, and ethnicity if that information has been voluntarily supplied by the student.
- Copies of all documents signed by the student, including contracts, instruments of indebtedness, and documents relating to financial aid.
- Records of the dates of enrollment and, if applicable, withdrawal from the institution, leaves of absence, and graduation.
- A transcript showing all of the following:
 - The courses or other educational programs that were completed, or were attempted but not completed, and the dates of completion or withdrawal.
 - Credit for courses earned at other institutions.
 - Credit based on any educational achievement used for admission or college placement purposes.
 - The name, address, website address, and telephone number of the institution.

- For independent study courses, course outlines or learning contracts signed by the faculty and administrators who approved the course.
- The dissertations, theses, and other student projects submitted by graduate students.
- A copy of documents relating to student financial aid that are required to be maintained by law or by a loan guarantee agency.
- A document showing the total amount of money received from or on behalf of the student and the date or dates on which the money was received.
- A document specifying the amount of a refund, including the amount refunded for tuition and the amount for other itemized charges, the method of calculating the refund, the date the refund was made, and the name and address of the person or entity to which the refund was sent.
- Copies of any official advisory notices or warnings regarding the student's progress.
- Complaints received from the student.

4. Maintenance of Records

SVU shall maintain for a period of 5 years the pertinent student records from the student's date of completion or withdrawal. A record is considered current for three years following a student's completion or withdrawal. A record may be stored on microfilm, microfiche, computer disk, or any other method of record storage only if all of the following apply:

- The record may be stored without loss of information or legibility for the period within which the record is required to be maintained.
- For a record that is current, SVU maintains functioning devices that can immediately reproduce exact, legible printed copies of stored records. The devices shall be maintained in reasonably close proximity to the stored records at SVU's primary administrative location in California. For a record that is no longer current, SVU shall be able to reproduce exact, legible printed copies within two (2) business days.
- SVU has personnel scheduled to be present at all times during normal business hours who know how to operate the devices and can explain the operation of the devices.

SVU's records will be stored in a safe and secure manner. All information and documents in paper form that are within the retention period are keep secured in file resistance cabinets in a combination locked records room, located in the SVU Administrative building. The records room remain closed and locked at all times. Unauthorized personnel may not enter the records room. Documents removed from the records room must be maintained in a secured manner until its prompt return.

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 Student Office has established the "SVU Student Learning Center," which can help students arrange either private or small group tutorial sessions.

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

Non-Academic Counseling and Referrals

Recognizing that life in general, and academic life in particular, is filled with complexity and confusion, the Student Office 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 Student Office 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 universitysponsored organizations: The Student Association and the Alumni Association.

Student Association and Alumni Association

The Student Association and Alumni Association seek 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 locating or providing housing for its students.

Housing near the university is not difficult to find. However, rent 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 Student Office can provide assistance to students interested in exploring this option for securing housing.

Student Financial Assistance

Silicon Valley University does not participate in federal or state financial aid. A student deciding to enroll in an unaccredited institution is not eligible for federal financial aid programs. Be aware of the following information on loans:

- If a student obtains a loan to pay for an educational program, the student will have to repay the full amount of the loan plus interest, less the amount of any refund.
- If a student receives federal student financial aid funds, the student is entitled to a refund of the money not paid from federal financial aid funds.

However, there are some available positions of oncampus jobs available every trimester. Office Assistant, Teaching Assistant/Grader, Tutor, and Library Assistant positions available to qualified graduate level students. Selection will be based on academic achievements, course requirements, and prior experiences, as well as the school's current budget availability during each trimester.

UNIVERSITY POLICY ON ACADEMIC FREEDOM

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

<u>UNIVERSITY STATEMENT ON STUDENTS'</u> <u>RIGHTS</u>

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.

<u>UNIVERSITY STATEMENT ON STUDENTS'</u> 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 show 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 Student 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 ensure that proper documentation is available. The grade will not change until the conclusion of the appeal process is finished. When new grade is issued, old grade will be removed. Only new grade will count toward GPA calculation.

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.

<u>UNIVERSITY POLICY ON SEXUAL AND</u> <u>DISCRIMINATORY HARASSMENT</u>

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.

<u>Sexual Assault</u>

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.

<u>Sexual Harassment</u>

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

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

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

Discrimination

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

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

GRIEVANCE PROCEDURE FOR STUDENTS

Disciplinary Action

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

Judicial Hearings

Upon the credible presentation of an allegation of misconduct, the president of the university will appoint, according to his or her discretion and the dictates of fairness and justice, a judicial officer or a judicial panel consisting of interested members of the university community having the wisdom and temperament necessary for conducting a fair hearing and rendering a fair decision. Upon appointment, the judicial officer or panel will convene a judicial hearing to examine the circumstances surrounding any of the following situations:

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

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

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

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

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

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

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

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

Bureau for Private Postsecondary Education (BPPE): Mailing Address: P.O. Box 980818 West Sacramento, CA 95798-0818 (916) 574-7720

> Physical Address: 2535 Capitol Oaks Drive, Suite 400 Sacramento, CA 95833 (916) 431-6959 (888) 370-7589 Web site: <u>www.bppe.ca.gov</u> E-mail: <u>bppe@dca.ca.gov</u>

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 MSCS 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 36 credit hours;
- **B)** Meet the minimum cumulative GPA requirement for graduation; 3.0 out of 4.0 grading scale.
- C) Faculty approval;
- **D)** Filing of petition for graduation
- 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 who exit the university for a full trimester or longer and choose to return to SVU 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.

Unit of credit per clock hour: SVU utilizes the trimester system. Each class is assigned a specific number of credits according to the lecture or lab hours spent. For lab sessions, 1 credit hour equals 15 lecture hours, a total of 30 lab hours. One class hour of teaching or 1 unit of credit hour is 60 minutes in length for each week of a 15-

week trimester. Class sessions should equal credit hours multiplied by 60 minutes each week. For example, a 3 credit hour course should meet for a period of 180 minutes each week. In addition, students are expected to have 6 hours of study workload outside the lecture per week. Students earn 3 credits after successfully completing the course work for 15 weeks.

Checklist of Requirements

- A) Successful completion of all coursework listed in the study plan.
- B) GPA (Grade Point Average) of 3.0 or above for MSCS students.
- C) All tuition and fees must be paid.
- D) Application for graduation and graduation fees are paid.
- E) Satisfactory completion of 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 address 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 any changes to the deadlines.

Administrative Clearance

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

Definitions of Subject Acronyms

CE: Computer Engineering CS: Computer Science MATH: Mathematics

- Undergraduate Preparation: classes of 100, 200, 300, and 400 series
- Graduate Division: Graduate level classes of 500 and 600 series
- Graduate Standing: Student has been admitted to graduate program

MSCS PROGRAM

SVU offers a graduate program in Master of Science in Computer Science.

Master of Science in Computer Science (MSCS)

Program objective: 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:

Mathematic	S	15 credits
MATH200	Calculus I	3 credits
MATH202	Calculus II	3 credits
MATH206	Discrete Mathematics	3 credits
MATH210	Introduction to Probability	3 credits
	Theory	
MATH212	Introduction to Statistical	3 credits
	Methods	
Computer S	cience	43 credits
CS200	Introduction to Computer	3 credits
	Science	
CS200L	Introduction to Computer	1 credit
	Science Lab	
CS206	Introduction to	3 credits
	UNIX/Linux	
CS206L	UNIX/Linux Introduction	1 credit
	Lab	
CS230	Programming in C++	3 credits

CS230L	Programming in C++ 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
CS400	Operating Systems	3 credits
CS400L	Operating Systems Lab	1 credit
CS420	Introduction to Database	3 credits
	Systems	
CS430	Object-Oriented	3 credits
	Programming	
CS430L	Object-Oriented	1 credit
	Programming Lab	
CE452	Logic Design	3 credits
CE452L	Logic Design Lab	1 credit
CE454	Microprocessor Design	3 credits
CE454L	Microprocessor Design	1 credit
	Lab	
CE460	Introduction to Embedded	3 credits
	Systems	
CE460L	Introduction to Embedded	1 credit
	Systems Lab	

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 required:

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

The details are shown in the table below.

Computer S	cience Graduate Core	18 credits	
CS440M	Computer Networks I	3 credits	
CE450M	Computer Architecture I	3 credits	
CS500	Operating System Design	3 credits	
CS502	Design & Analysis of	3 credits	
	Algorithms		
CS520	Database System Principles	3 credits	
CS540	Computer Networks II	3 credits	
Graduate Electives Minimum 18 credits			
CS522	Database Administration	3 credits	
CS542	Network Management	3 credits	
CS545	Network Security	3 credits	
CS546	Network Design and Analysis	s 3 credits	
CE550	Computer Architecture II	3 credits	
CS560	Software Engineering	3 credits	
CE562	Embedded Software Design	3 credits	
CS562	Software Quality Assurance	3 credits	

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

Graduate Sp	pecial Topic Electives	
CS596-011	Web Data Mining	3 credits
CS596-014	Business Intelligence and	3 credits
	Data Warehousing	
CS596-015	Cloud Computing	3 credits
CS596-018	Computer Performance	3 credits
	Evaluation	
CS596-023	Wireless Communication	3 credits
CS596-024	Data Mining and Big Data	3 credits
CS596-025	Theory of Computation	3 credits
CS596-026	OpenStack Cloud	3 credits
	Architecture	
CS596-029	Machine Learning and Data	3 credits
	Mining	
CS596-030	Internet of Things	3 credits
CS596-032	Data Science	3 credits
Electives inc	lude special topics, offered to in	troduce the

Electives include special topics, offered to introduce the latest developments and issues in both academic research and industry application areas.

Standard Occupational Classification (SOC)

Based on United States Department of Labor - Bureau of Labor Statistics, the SOC for MSCS are:
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2018 SOC Code	SOC Title	SOC Direct Match Title
11-3021	Computer and Information Systems	Chief Technology Officer
	Managers	Information Technology Systems Director
		Management Information Systems Director
13-1151	Training and Development	Computer Software Training Specialist
15 1151	Specialists	Computer Training Specialist
15-1211	Computer Systems Analysts	Applications Analyst
10 1211	Computer Systems A marysts	Data Processing Systems Analyst
		Information Systems Analyst
		Systems Architect
15-1212	Information Security Analysts	Computer Security Specialist
13-1212	mormation security Analysis	IT Risk Specialist
		Network Security Analyst
15 1001	Commenter on 1 Information Descende	
15-1221	Computer and Information Research	Computational Theory Scientist
	Scientists	Control System Computer Scientist
15 1001		Programming Methodology and Languages Researcher
15-1231	Computer Network Support	Network Diagnostic Support Specialist
	Specialists	Network Support Technician
		Network Technician
15-1232	Computer User Support Specialists	End-User Support Specialist
		Help Desk Technician
		IT Support Specialist
15-1241	Computer Network Architects	Computer Network Engineer
		Network Designer
		Network Developer
15-1242	Database Administrators	Database Programmer
		Database Security Administrator
15-1243	Database Architects	Data Architect
		Data Integration Specialist
		Data Warehousing Specialist
		Database Developer
15-1244	Network and Computer Systems	Network Analyst
10 1211	Administrators	Network Coordinator
		Wide Area Network Administrator
15-1251	Computer Programmers	Applications Programmer
15-1251	Computer r rogrammers	Computer Language Coder
		IT Programmer
		Systems Programmer
15-1252	Software Developers	Computer Applications Engineer
13-1232	Software Developers	
		Computer Systems Engineer
		Mobile Applications Developer
		Software Applications Architect
		Software Engineer
16 1062		Systems Software Developer
15-1253	Software Quality Assurance Analysts	Applications Tester
	and Testers	Software Quality Assurance Technician
		Software Quality Control Specialist
		Software Quality Engineer
		Software Test Engineer
15-1254	Web Developers	Intranet Developer
		Web Applications Developer
		Web Architect
15-1255	Web and Digital Interface Designers	Digital Designer
		Graphic Web Designer
		Web Content Specialist

15-1299	Computer Occupations, All Other	Computer Console Operator	
		Computer Laboratory Technician	
		Data Center Operator	
15-2051	Data Scientists	Business Intelligence Developer	
		Data Analytics Specialist	
		Data Mining Analyst	
		Data Visualization Developer	
27-3042	Technical Writers	Documentation Writer	
		Specifications Writer	

COURSE DESCRIPTIONS

Definitions of Subject Acronyms

CE: Computer Engineering CS: Computer Science MATH: Mathematics

Course Numbers

Course Number Prefix indicates each course level.

200-499 Undergraduate Preparatory Courses

Courses with these numbers are for the graduate student with deficiencies in their undergraduate program, and must complete additional coursework.

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.

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.

UNDERGRADUATE PREPARATORY COURSES

Mathematics & Science Core

I. Mathematics

MATH200 Calculus I

3 credit hours (3 hours of lecture)

This is the first course of undergraduate level calculus focused on conceptual understanding and technical competence developing in evaluating function limits and derivatives along with applications in science, engineering and business. Topics covered in this course are: Functions, Mathematical Models, Limits, Continuity, and Differentiation Derivatives. Rules. Implicit Differentiation, Applications of Differentiations in Various Fields, Finding Maximum and Minimum, L'Hopital's Rule, Newton's Method in Solving Nonlinear Equations, Evaluating Anti-derivatives. The students enrolling in this course are assumed to have high school Pre-Calculus training with fundamental knowledge of algebra operations.

Pre-requisite: MATH 100 or MATH110

MATH202 Calculus II

3 credit hours (3 hours of lecture)

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

Pre-requisite: MATH200

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 include: Algorithms, Induction and Recursion Algorithms Analysis, Counting Principles, Advanced Counting Techniques, Relations, Generating Functions, Graphs, Trees, and Boolean Algebra. Students enrolled in this course are recommended to have high school algebra and precalculus background. *Pre-requisite: None*

MATH210 Introduction to Probability Theory

3 credit hours (3 hours of lecture)

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

MATH212 Introduction to Statistical Methods

3 credit hours (3 hours of lecture)

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

<u>COMPUTER SCIENCE UNDERGRADUATE</u> <u>PREPARATORY COURSES</u>

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.

Pre-requisite: None Co-requisite: CS200L

CS200L Introduction to Computer Science 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.

Pre-requisite: None 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.

Pre-requisite: None Co-requisite: CS206L

CS206L Introduction to UNIX/Linux 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.

Pre-requisite: None Co-requisite: CS206

CS230 Programming in C++

3 credit hours (3 hours of lecture)

This course is designed for first-time programmers as well as experienced programmers who want to learn C^{++} . A programming course is different from theory courses in that students learn from examples, from practice, and from mistakes. Students will devote a lot of time to writing programs, testing them, and fixing errors. We start by learning fundamental programming skills 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. By the end of this course, students will have a solid foundation to build C++ applications as well as learning other objectoriented languages when necessary. *Pre-requisite: None*

Co-requisite: CS230L

CS230L C++ Programming Lab

1 credit hour (2 hours of lab)

The 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.

Pre-requisite: None 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. *Pre-requisite: 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. *Pre-requisite: CS332 (or equivalent)*

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 event-driven programming, basics, graphics, exception handling. *Pre-requisite: None*

Co-requisite: CS332L

CS332L Java Programming Lab

1 credit hour (2 hours of lab)

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

Pre-requisite: None Co-requisite: CS332

CS400 Operating Systems

3 credit hours (3 hours of lecture)

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

Pre-requisite: CS230 or CS206 (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. *Pre-requisite: CS230 or CS206 (or equivalent) Co-requisite: CS400*

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, and embedded and dynamic SQL.

Pre-requisite: Familiarity with data structures and programming.

CS430 Object-Oriented Programming

3 credit hours (3 hours of lecture)

Based on the Java programming language, this course first introduces fundamental programming techniques with selections, loops, methods, and arrays. The second part of the course focuses on object-oriented programming concepts such as classes, inheritance, polymorphism, abstract classes, and interfaces. The course concludes with an overview of the Java Collection Framework, which defines a set of useful APIs for data structures. Topics include: elementary programming, selections, loops, methods, arrays, objects and classes, strings and text I/O, inheritance and polymorphism, abstract classes and interfaces, generics, Java Collection Framework.

Pre-requisite: None Co-requisite: CS430L

CS430L Object-Oriented Programming Lab

3 credit hours (3 hours of lecture)

This course is a co-requisite for CS430 (Object-Oriented Programming). There is no better way of learning how to program than by actually doing it. The lab course provides the students with hands-on experience in OOP using Java programming language. Programming lab exercises given in this course correspond to the topics discussed in CS430. Topics include: elementary programming, selections, loops, methods, arrays, objects and classes, strings and text I/O, inheritance and polymorphism, abstract classes and interfaces, generics, Java Collection Framework.

Pre-requisite: None Co-requisite: CS430

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; OSI reference model; Media Access Control; error detection; flow control; error control; congestion control; routing and network applications. *Pre-requisite: 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 instructionlevel implication will also be addressed.

Pre-requisite: CE452

CE452 Logic Design

3 credit hours (3 hours of lecture)

This course covers the advanced part of the Logic Design including how to use Verilog to do Logic Design. The course topics include-basic Boolean Rules, Boolean Reduction, Karnaugh Map, QuineMcCluskey Method, Combinational Logic Design, Sequential Logic Design, Verilog Syntax, Verilog Testbench, Verilog Simulation.

Pre-requisite: None Co-requisite: CE452L

CE452L Logic Design Lab

1 credit hour (2 hours of lab)

This course covers the Lab exercises for the CE452 Advanced Logic Design, including how to use Cadence Virtuoso tool to create standard cell symbol view, schematic view, and schematic designs; and how to write Verilog RTL code and gate level netlist, how to run Verilog functional simulation, how to display and check the Verilog simulation output waveforms for the simple standard cells and combinational/sequential logic designs.

Pre-requisite: None Co-requisite: CE452

CE454 Microprocessor Design

3 credit hours (3 hours of lecture)

This course in Microprocessor design gives an overview of the computer architecture, the components of a microprocessor, and some of the basic architectures of modern microprocessors. This course covers essential information about the electrical and logical issues of interfacing devices in microprocessor-based systems. Topics include memory-interfacing techniques; interfacing peripherals; keyboards, displays; analog to digital converters; on-chip bus interconnect.

Pre-requisite: CE452 Co-requisite: CE454L

CE454L Microprocessor Design Lab

1 credit hour (2 hours of lab)

This course in Microprocessor design gives an overview of the computer architecture, the components of a microprocessor, and some of the basic architectures of modern microprocessors. This course covers essential information about the electrical and logical issues of interfacing devices in microprocessor-based systems. Topics include memory-interfacing techniques; interfacing peripherals; keyboards, displays; analog to digital converters; on-chip bus interconnect.

Pre-requisite: CE452 Co-requisite: CE454

CE460 Introduction to Embedded Systems

3 credit hours (3 hours of lecture)

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

Pre-requisite: CS206 and CS230 *Co-requisite:* CE460L

CE460L Introduction to Embedded Systems Lab *1 credit hour (2 hours of lab)*

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

Pre-requisite: CS206 and CS230 *Co-requisite:* CE460

COMPUTER SCIENCE GRADUATE COURSES

CS500 Operating System Design

3 credit hours (3 hours of lecture)

The course covers the internals of the different Operating Systems subsystems including: Process Mgmt, Threads and SMP, Concurrency Control, Memory Mgmt, Scheduling, I/O Mgmt and Disk Scheduling, File Mgmt, and Security threats and techniques to handle it.

Pre-requisite: CS400 Knowledge of development environment on UNIX or LINUX operating system, editing, compiling, and debugging on UNIX or LINUX.

Co-Requisite: Background on editing, compiling and debugging C programs on Linux or UNIX

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.

Pre-requisite: CS300 or CS430

CS520 Database System Principles

3 credit hours (3 hours of lecture)

Students will learn relational database design both at the physical and at the logical levels. An overview of relational algebra and will cover the SQL programming language. Special topics to be covered include constraints and triggers, views and indexes. In addition, we cover SQL in the server environment including embedded SQL, stored procedure, CLI, and JDBC. We close by covering an overview for query processing and high-level overview of SQL compiler design.

Pre-requisite: 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, management, user privileges, roles.

Pre-requisite: CS420

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: layer 2 switching and spanning tree protocol, VLAN, TCP/IP, VLSM and subnet, IP routing protocols (RIP, OSPF, BGP, and ISIS), advanced network IPV6 Addressing scheme and static routing, switch/router testing methodology, enterprise network design. The course learning will be aided by regular GNS3 Lab sessions. *Pre-requisite: 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. *Pre-requisite: CS440*

CS545 Network Security

3 credit hours (3 hours of lecture)

This is an introductory course to network security. Topics covered include: basics of cryptography, symmetric and asymmetric cryptography, basic number theory, and classical cryptosystems, public key cryptography, one-way functions, Diffie-Hellman key exchange, key distribution problem. Public-key management, Stream cipher RC4, RSA cryptosystem, El Gamal cryptosystem, hash functions SHA-512, Whirlpool, HMAC, digital signatures, data authentication and integrity, MAC, cryptography a la Claude E. Shannon, Data Encryption Standard, and Advanced Encryption Standard (Rijndael), elliptic curves based cryptosystem, crypto placements in networks, public-key infrastructure (PKI), IPsec, SSL/TLS, secure email (PGP, S/MIME), Kerberos, secure remote logins, wireless network security (WEP, WPA, WPA2, Bluetooth security, wireless mesh network security), network perimeter security (firewalls, viruses, worms, Trojan horses, web security, denial of service attacks, anti-malicious software), intrusion detection (network-based and detections. host-based detections, signature behavioral forensics, honeypots). Pre-requisite: CS440

CS546 Network Design and Analysis

3 credit hours (3 hours of lecture)

Overview of techniques used in design and analysis of computer networks. Well known graph-theoretic techniques used in computer networks. Topics covered in this course include: Evaluation of network connectivity and its reliability, analysis of networks via queuing theory and simulation, factorial design, design of different types of networks (i.e. access and backbone networks), study of Internet traffic, structure of the Internet, general principles used in the design and evaluation of network protocols. *Pre-requisite: 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).

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. *Pre-requisite: Graduate Standing*

CE562 Embedded Software Design

3 credit hours (3 hours of lecture)

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

Pre-requisite: CE460

CS562 Software Quality Assurance

3 credit hours (3 hours of lecture)

The requirements of high-quality, reliable, predictable software become increasingly necessary as software use continues to grow both generally and in the professional work places. 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.

Pre-requisite: CS230, CS332 or CS430 (or equivalent)

CS596 Special Topics in Computer Science

3 credit hours (3 hours of lecture)

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

CS596-011 Web Data Mining

3 credit hours (3 hours of lecture)

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

Pre-requisite: Graduate Standing

CS596-014 Business Intelligence and Data Warehousing

3 credit hours (3 hours of lecture)

This course is designed for graduate students (majoring in either Computer Science or Business) who wish to become familiar with Data Warehouse and Business Intelligence technology and its role in the enterprise. Topics include: Data Warehouse design, development, and management, Data preprocessing 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, classification correlations, and prediction. In addition, the course covers cluster analysis for unstructured data, and future trends in Business Intelligence.

Pre-requisite: BA515 and CS520

CS596-015 Cloud Computing

3 credit hours (3 hours of lecture)

This course is designed for graduate students in Computer Science who wishes to become familiar with Cloud Computing and its impact on the Data center. Topics covered include: Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). The course covers case studies for popular Cloud Computing offerings, and we conclude with Mobile and cloud computing overview.

Pre-requisite: Background in data management and Web-based applications development.

CS596-018 Computer Performance Evaluation 3 credit hours (3 hours of lecture)

Measurement and evaluation of computer performance. Workload characterization. Analysis of computer systems via simulation, and queue theoretic models. Learn the art of simulating computing systems via random variate generation, and discrete event techniques. Closed and open queueing computing systems. Operational and mean value analysis. Bottleneck analysis.

Pre-requisite: MATH 200 and MATH 210

CS596-023 Wireless Communication and Networks

3 credit hours (3 hours of lecture)

This course is an introduction to wireless communication. Topics include: Transmission fundamentals, Communication networks, protocols and the TCP / IP suite, Antennas and wave propagation, Signal encoding techniques, Spread spectrum, coding and error control, Satellite communication, Cellular wireless networks, Cordless systems and Wireless Local Loop. Mobile IP and Wireless Access Protocol, Wireless LAN technology, IEEE 802.11 Wireless LAN standard, and Bluetooth will also be covered.

Pre-requisite: None

CS596-024 Data Mining and Big Data

3 credit hours (3 hours of lecture)

Students will learn different data mining techniques including OLAP and hands-on experience with Data Mining with SQL Server 2008. In addition, the course covers Big Data including: what is Big Data, why Big Data matters, Big Data and the business case, Big data sources, Big data details, and security/compliance/auditing/protection, and best practices for Big Data Analytics. Finally, we survey available open source technologies/tools in the Apache Hadoop including: Ambari, Cassandra, HBase, Hive, Pig, Mahout, and Zookeeper. Finally, brief overview of the R Statistical Programming Language.

*Pre-requisite:*CS420 or CS520. Background about SQL Server is a plus.

CS596-025 Theory of Computation

3 credit hours (3 hours of lecture)

The course has four main parts. The first part briefly covers discrete mathematics used in computer

science. The second part consists of automata and languages. Regular and context free languages are covered in it. The third part consists of computability theory. It consists of Church-Turing thesis, decidability, reducibility, and some advanced topics in computability theory. The fourth part consists of complexity theory. It consists of time and space complexity, intractability, and some advanced topics in complexity theory.

Pre-requisite: MATH200, MATH206, CS200.

CS596-026 OpenStack Cloud Architecture

3 credit hours (3 hours of lecture)

This OpenStack Cloud Architecture course provides practical knowledge around fundamental OpenStack components such as Compute (Nova), Image Service (Glance), Identity (Keystone), Block Storage (Cinder) and Dashboard (Horizon). In addition, to make this course as complete and relevant as possible, we also cover several OpenStack building blocks used for object storage, networking, monitoring and orchestration.

Pre-requisite: None

CS596-029 Machine Learning and Data Mining

3 credit hours (3 hours of lecture)

The course covers the fundamental concepts in Machine Learning theories, including Probability, Neural Networks, Bayes Estimate, Decision Trees, Support Vector Machine and Kernel Methods, Supervised and Unsupervised Learning, etc. The course also discusses applying machine learning techniques and Python programming to solve problems in data mining, bioinformatics, and object recognition.

Pre-requisite: None

CS596-030 Internet of Things

3 credit hours (3 hours of lecture)

This course intends to provide introductory level overview with a broad scope of basic theoretical topics and some hands-on exercises of Internet of Things application for students with or without strong engineering backgrounds. Students are required to complete either a detailed end to end IoT design project or hands-on implementation by the end of the semester. Open source IoT hardware/software/cloud platforms will be used for some exercises and recommended for students' IoT projects. However, this introductory course will not require too much indepth knowledge or prior SW/HW experience. *Pre-requisite: None*

CS596-032 Data Science

3 credit hours (3 hours of lecture)

The course covers the fundamental concepts in Data Science, including data capturing, data cleaning, data analysis, data mining, and data visualization. The course also includes introduction to both Python and R programming languages as the tools and examples for implementing some of the theories. *Pre-requisite: None*

CS598 Graduate Project

3 credit hours (3 hours of lecture)

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

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CATALOG SPECIFICATIONS

The information contained in this catalog is updated every school calendar year.

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Following approval by BPPE to offer degree program, and to continue to offer degree program, SVU must meet the follow requirements:

- Become institutionally accredited by an accrediting agency recognized by the United States Department of Education, with the scope of the accreditation covering at least one degree program.
- Achieve accreditation candidacy or preaccreditation, as defined in regulations.

If SVU stops pursuing accreditation, it must:

- Stop all enrollment in its degree program.
- Provide a teach-out to finish the educational program or provide a refund.

An institution that fails to comply with accreditation requirements by the required dates shall have its approval to offer degree program automatically suspended.

UNIVERSITY ADMINISTRATION

Dr. Jerry Shiao

- President / Academic Dean

Mr. Simon Au

- Associate Academic Dean

Dr. Eugene Chang

- CS Program Administrator

Mr. Simon Au

- Registrar

Ms. Tiffany Chiang

- Student Office Manager

Ms. Jiahan Fan

- Student Office Staff

Mr. Kurt Fan

- I.T. Manager

Mr. Kurt Fan

- Facility Manager

Ms. Tiffany Chiang - Accreditation Coordinator

TBD

- University Librarian

UNIVERSITY FACULTY MEMBERS

Nirdosh Bhatnagar

Professor

- Ph.D. in Electrical Engineering, Stanford University, Palo Alto, California (1978)
- M.S. in Electrical Engineering, Stanford University, Palo Alto, California (1972)
- M.S. in Operations Research, Stanford University, Palo Alto, California (1980)
- B.S. in Electrical Engineering in Electronics and Communications Engineering, Osmania University, Hyderabad, India (1970)
- Expertise: Design & Analysis of Algorithms, Machine Learning, Network Security, Network Design & Analysis, Network Modeling, Web Data Mining, Wireless Communications, Theory of Computations, Computer Performance Evaluation, Computer Networks, Cryptology, Mathematics, and Probability Theory

Eugene Chang

Associate Professor

- Ph.D. in Computer Engineering, University of Texas at Austin, 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 (1984), Taipei, Taiwan
- Expertise: Design & Analysis of Algorithms, Machine Learning and Data Mining, Data Science, Business Intelligence, Cloud Computing, Data Mining and Big Data, and Predictive Analytics

Michael Chen

Associate Professor

- Ph.D. in Electrical and Computer Engineering, State University of New York at Buffalo, Buffalo, New York (1996)
- M.S. in Electrical and Computer Engineering, State University of New York at Buffalo, Buffalo, New York (1990)
- B.S. in Electrical Engineering, Fu-Jen University, Taipei, Taiwan (1985)

Expertise: Computer Architecture, SoC Design and Methodology, ASIC Design and Methodology, FPGA Design, Routing and Switching Technologies, Computer Networks, and Microprocessor Design

Allen Chen

Assistant Professor

M.S. in Computer Science, Utah State University, Logan, Utah (1984)

- B.S. in Electrical Engineering, Tatung University, Taipei, Taiwan (1978)
- Expertise: IC Physical Layout Design, IC Placement Route, EDA Design Tools, Logic Design, IC Design and Computer Architecture

Tiffany Chiang

Assistant Professor

M.S. in Computer Science, University of Southern California, Los Angeles, California (1987)

B.S. in Computer Engineering, National Chiao-Tung University, Hsinchu, Taiwan (1986)

Expertise: UNIX/Linux, Object-Oriented Programming, Java Programming, C++ Programming, Python Programming, Data Structures, Web Services, and Network Management Systems

Vicky Hsu

- Assistant Professor
- M.S. in Electrical Engineering, Oklahoma State University, Stillwater, Oklahoma (1993)
- M.A. in Telecommunications, Michigan State University, East Lansing, Michigan (1996)
- B.S. in Electrical Engineering, National Central University, Chungli, Taiwan (1990)
- Expertise: Computer Networks, UNIX/Linux, Embedded Computer System Design, Embedded Software Design, Internet of Things, Consumer electronics/software/telecom/wireless industry, Speech/Pattern/Recognition/Coding, Digital Signal Processing/Semantic/Cognitive/Graphic Theory

Weian Huang

- Assistant Professor
- M.S. in Electrical Engineering, University Missouri, Colombia, Missouri (1987)
- B.S. in Electrical Engineering, Feng-Chia University, Taichung, Taiwan

Expertise: Computer Networks, Computer Architecture, L2/L3 ASIC Development and Methodology, SoC Development and Methodology

Dongming Liang

Associate Professor

- Ph.D. in Computer Science, York University, Toronto, Canada (2004)
- M.S. in Information Technology, University of Science and Technology & Academia Sinica, Beijing, China (1996)
- B.S. in Computer Science, University of Science & Technology, Beijing, China (1991)

Expertise: Database System Design, Database Implementation and Administration, Query Optimization, SQL Performance Tuning, Machine Learning, Cyber Security System, Data Virtualization and Software Defined Data Environments, and OpenStack Cloud Architecture

Yazdan Pedram Razi

Associate Professor

- Ph.D. in Thermo-fluid Engineering, Paul Sabatier University, Toulouse, France (2004)
- B.S. in Mechanical Engineering in Thermo-fluids, University of Science and Technology of Iran, Tehran, Iran (1992)
- Expertise: Heat Transfer and Fluid Mechanics, Energy
- Conversion, Thermodynamics, Mathematics, Calculus, Physics, Discrete Mathematics, Mathematical Analysis, Probability Theory, Statistical Analysis, and Robotics

Mei-Ling Shek

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- Ph.D. in Applied Physics, Stanford University, Palo Alto, California (1983)
- M.S. in Applied Physics, Stanford University, Palo Alto, California (1977)
- B.S. in Chemistry, California Institute of Technology, Pasadena, California (1974)

Expertise: Telecom, Solar Energy, Optical Modeling and Material Characterization, Energy and Environment Science, Calculus, Physics, Discrete Mathematics, Mathematical Analysis, Probability Theory, Statistical Analysis, and Nanotechnology

Jerry Shiao

Professor

- Ph.D. in Electrical Engineering, University of Southern California, Los Angeles, California (1992)
- B.S. in Control Engineering, National Chiao-Tung University, Hsinchu, Taiwan (1984)
- Expertise: UNIX/Linux, Wired/Wireless Local Area Networks (LANs), Network Design & Optimization (Routing), Network Management, Software Engineering, Software Quality Assurance, Modeling & Performance Analysis of Network Systems, High Speed Access Networks, Operating System Design, and Embedded System Design

Albert Tsao

Associate Processor

- Ph.D. in Computer Science, University of California Los Angeles, Los Angeles, California (1996)
- B.S. in Electrical Engineering, National Taiwan University, Taipei, Taiwan
- Expertise: Design & Analysis of Algorithms, Statistics, Data Analysis, Graph Theory, Data Structures, C++ Programming, Java Programming,

Python Programming, UNIX/Linux, and Operating System Design

Sandy Wang

Associate Professor

- Ph.D. in Computer Science, Duke University, Durham, North Carolina (1995)
- B.A. in Computer Science and Information Engineering, National Taiwan University, Taipei, Taiwan (1989)
- Expertise: Computer Networks, Routing, Switching, QoS Technologies, Networking Protocols, Wide Area Networks, and Operating System Design

Yung-Ming (Bert) Wu

Assistant Professor

- M.S. in Electrical Engineering, University of Southern California, Los Angeles, California (1994)
- B.S. in Electrical Engineering, National Tsing Hua University, Hsinchu, Taiwan (1990)
- Expertise: Digital System Development & Verification, FPGA & ASIC Flow and Design, PCB & SI Design, HDL design, Logic Design, IC Design, VLSI Design, Computer Networks, and Embedded System Design