

# California South Bay University



**CATALOG 2010**

**762 San Aleso Avenue, Sunnyvale, CA 94085**

Tel: (408) 400-9008 (Admission); Fax: (888) 225-1868

Website: [www.csbu.us](http://www.csbu.us); Email: [info@csbu.us](mailto:info@csbu.us)

## 2010 Academic Calendar

### Traditional Trimester Scheduling

Traditional Trimester Scheduling consists of three 15-week terms scheduled throughout the academic year.

### Spring Term 2010

(January 18, 2010 – April 30, 2010)

January 4 – January 15	Registration
January 11	Orientation
<b>January 18</b>	<b>Classes begin</b>
January 22	Last day for Late Registration
January 29	Last day for withdrawing from classes
April 5	Advanced Registration for Summer Term
April 9	Last day to file for graduation for this term
April 19 – April 23	Finals

### Summer Term 2010

(May 17, 2010 – September 4, 2010)

May 3 – May 14	Registration
May 10	Orientation
<b>May 17</b>	<b>Classes begin</b>
May 21	Last day for Late Registration
May 28	Last day for withdrawing from classes
July 26	Advanced Registration for Fall Term 2010
July 30	Last day to file for graduation for this term
August 16 – August 20	Finals

### Fall Term 2010

(September 13, 2010 – January 7, 2011)

August 30 – September 10	Registration
September 6	Orientation
<b>September 13</b>	<b>Classes begin</b>
September 17	Last day for Late Registration
September 24	Last day for withdrawing from classes
November 30	Advanced Registration for Spring Term
December 4	Last day to file for graduation for this term
December 13 – December 17	Finals

**This** publication is an announcement of the current programs and course offerings provided by California South Bay University. It is for information only and is subject to change without notice. Courses, faculty assignments, prerequisites, graduation or completion requirements, standards, tuition and fees, and programs may change from time to time. The same courses are not necessarily offered every term.

California South Bay University reserves the rights to change requirements regarding admission, the courses and their contents, the organization of curricula, retention, awarding of degrees, and other necessary rules and regulations. Such regulations shall be effective whenever determined by the appropriate faculty and administrative bodies; they may govern both old and new students.

Every effort, however, has been made to assure that all regulations and curriculum information contained in this *Catalog* are correctly updated as of January 1<sup>st</sup>, 2010



The logo of South Bay University is a large, circular seal in the background. It features a central illustration of a suspension bridge, likely the San Francisco Golden Gate Bridge, with the text 'SOUTH BAY UNIVERSITY' around the top and '1962' at the bottom.

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## **A MESSAGE FROM THE PRESIDENT**

By selecting California South Bay University (CSBU), you are choosing an education, in the Silicon Valley in the U.S., that will make positive a life full of opportunities and will grant you knowledge and platform to grasp greater control of your destiny.

Situated in Sunnyvale in California's Silicon Valley neighborhood, CSBU's faculty, staff and students engage the world by connecting to the global city. It calls home and benefits from an international community at its doorstep. In Silicon Valley, innovations in technology and communications have enabled CSBU's educational sector to expand its realm in providing education to a wider range of students in extensive geographic areas.

The CSBU is dedicated to educating the whole person, to professional formation, and to empowering leaders for a just and humane world. The CSBU utilizes the latest technologies in its efforts to bring the best possible education to students all over the world. We seek to challenge our students, and, in doing so, provide our students with the services and opportunities necessary to enable them to become intelligent hi-tech and business professions.

I would like to invite you to invest your academic future and professional success by exploring the opportunities available at the CSBU and wish you have a great experience at California South Bay University.

Ling Li



President

## **INSTITUTIONAL PHILOSOPHY**

Welcome to California South Bay University! California South Bay University is a pioneer in offering quality academic programs with flexible course schedules designed to meet the needs of working adults. Also, we are committed to providing a challenging and exciting intellectual environment in which adult learners can reach their full potential and achieve their educational goals.

At CSBU, we pride ourselves both on the quality of our education and its relevance to today's professional world; especially in hi-tech business management. Each program within the university is designed to ensure that all of the acquired knowledge and skills be valuable to its graduates, offering a practical and solid foundation for the students' future. We make sure that our educational training would help enhance students' basic knowledge, skills, critical thinking, and problem-solving ability in order to bring them closer to accomplishing their professional goals.

In addition to enriching students' capability of developing their own career, CSBU embraces the notion of innovation and is dedicated to capture the newest trend of technology and industries. Students are encouraged to be creative in learning advanced knowledge and to bring such a spirit into their life. We believe once students internalize the spirit of innovation through participating in our learning community, it will become their life-long assets.

With our passion to provide excellent education to people who love to learn, we sincerely invite you to join us in our many professional programs in the fields of computer science, management, electronic engineering and green energy. A wise decision today, translates to a bright future tomorrow.

## **STATEMENT OF MISSION, PURPOSE AND OBJECTIVES**

California South Bay University is a learning community that seeks to serve society by educating the leaders of tomorrow and extending the frontiers of knowledge.

The mission of California South Bay University is to provide a synthesis of innovative and traditional education leading to outstanding professional opportunities for adult learners. California South Bay University aims to bring qualified faculty who have had active careers in high-tech industries and business into interacting with highly motivated students in a stimulating learning environment. With the fast-changing global business and technological industries, California South Bay University adapts its curriculum to those needs. Presently, California South Bay University focuses on graduate degree programs at the master level in Computer Science (MSCS), Business Administration (MBA), Electronic Engineering (MSEE), Green Energy (MSGI), and on the program of English as Second Language (ESL).

Our educational goal is to give the student a solid background in general studies as well as specialized knowledge in a chosen field. Although we realize the necessity of offering the student a large portion of basic information, we believe that our primary task is to teach the students not only concepts but the process of discovery, analysis, and application of these concepts.

At California South Bay University, education encompasses continuous striving for excellence with the contexts to learning so that knowledge is gained not only for its own sake, but for the sake of modern society which the people for California South Bay University are a part of.

- Programs and courses at CSBU are designed to support both full-time and part-time students.
- Courses are created in accordance with the speed of newly developed technological innovations and advances in the Silicon Valley.
- Courses are designed on a competency-based, and are taught using innovative instructional methods.
- Proficiency in public speaking and technical writing is an integral part of degree requirements.
- The curriculum emphasizes technologies and studies pertaining to environmental protection.
- A strong application component is integrated into the curriculum and often into each class.
- Special attention is given to practical engineering research problems.
- An Advisory Board consisting of leaders in industry from Silicon Valley is closely involved in shaping the nature and content of the programs offered by CSBU.

### **The Objective of CSBU**

California South Bay University provides a unique educational culture and learning environment for students because California South Bay University has recruited a strong pool of talented individuals from Silicon Valley to teach, conduct research, and provide students services.

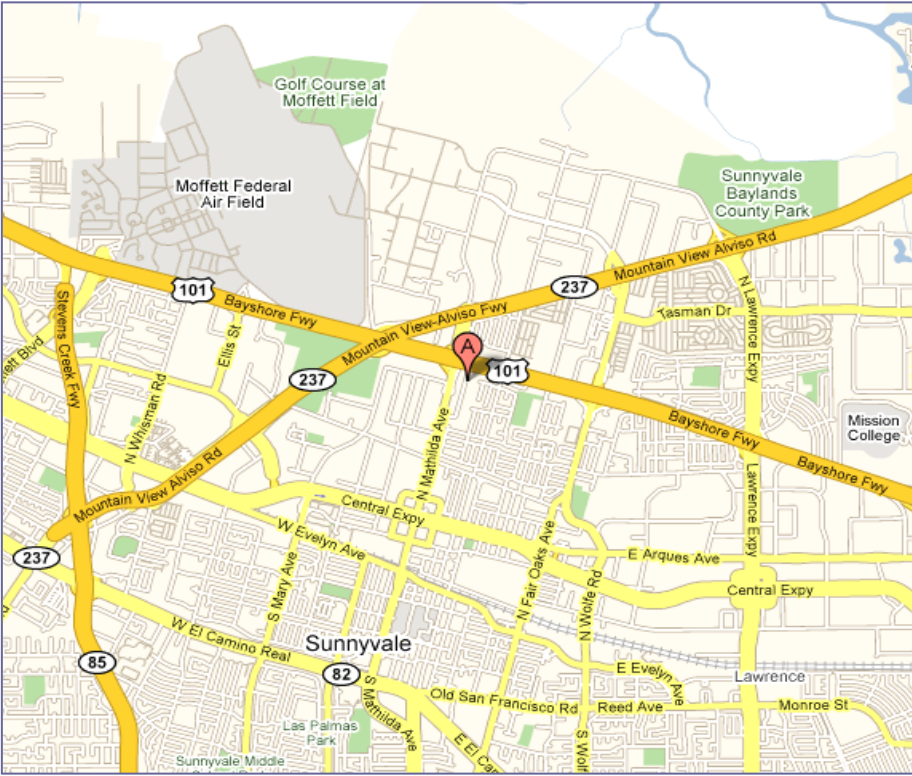


## UNIVERSITY LOCATION

California South Bay University is located in the heart of Silicon Valley, just 50 miles south of San Francisco and is in the center of the world's greatest concentration of hi-tech, professional and scientific activity- Silicon Valley. There are many firms around a five mile radius of CSBU—such as HP, Intel, Microsoft, AMD, ATMEL, Sun Microsystems, NASA and IBM— global leaders in computer science technology. San Francisco, Marin County, Berkeley, Oakland, and the beaches are all within one-hour's travel by bus, train, or car. The Monterey Peninsula, Carmel and the famous Napa Valley wine country are all less than two hours away. San Jose International Airport is about nine miles from campus.

University Address:

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## DIRECTIONS TO CALIFORNIA SOUTH BAY UNIVERSITY

### **Coming from San Francisco:**

#### By Car:

1. Take US-101 South towards I-80/Oakland/San Jose
2. Exit onto N Mathilda Ave towards Sunnyvale.
3. Turn left at San Aleso Ave.
4. Visit us at 762 San Aleso Avenue, Sunnyvale, CA 94085

#### By Public Transportation:

1. Take Light rail train K-Ingleside (direction: Sunnydale & Bayshore) at Metro Van Ness Station, exit train at 4th St & King St
2. Transfer to Caltrain 154 (direction: San Francisco to San Jose), exit at Sunnyvale Caltrain Station
3. Take Bus 54 (direction: 54 NB Lockheed Martin), arrive at the Intersection between Mathilda & San Aleso Avenue
4. Visit us at 762 San Aleso Avenue, Sunnyvale, CA 94085

### **Coming from San Jose:**

#### By Car:

1. Take CA-87 N and take exit onto US-101 N towards San Francisco
2. Take South Mathilda Ave exit towards Sunnyvale.
3. Merge onto N Mathilda Ave then turn left at San Aleso Ave.
4. Visit us at 762 San Aleso Avenue, Sunnyvale, CA 94085.

#### By Public Transportation:

1. Take a Caltrain at San Jose (direction: San Jose to San Francisco), arrive at Sunnyvale Caltrain station
2. Take Bus 54 (direction: 54 NB Lockheed Martin), arrive at the Intersection between Mathilda & San Aleso Avenue
3. Visit us at 762 San Aleso Avenue, Sunnyvale, CA 94085

### **Coming from Hayward:**

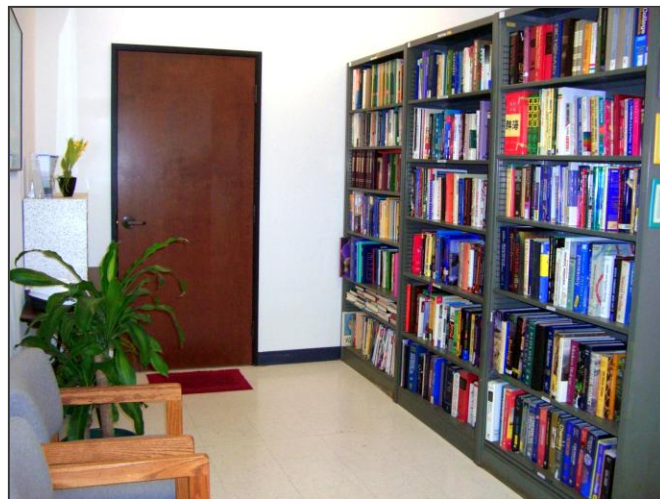
#### By Car:

1. Take I-880 S exit towards San Jose
2. Then keep left at the fork to continue towards I-880 S and merge onto I-880S
3. Take the exit onto CA-237 W toward Mountain View and take exit 3B towards Sunnyvale
4. Turn left at N Mathilda Ave and turn left at San Aleso Ave
5. Take right and Visit us at 762 San Aleso Avenue, Sunnyvale, CA 94085.

#### By Public Transportation:

1. Take a Metro rail from Hayward station (direction: Fremont) exit at Fremont station.

2. Take VTA Bus 181- San Jose Diridon- Fremont Bart (direction: 181SB Express San Jose)
3. Exit at 1st & Mission
4. Take Light rail 902 Mountain View (Direction: LRT Winchester-Mountain View)
5. exit at Lockheed Martin station
4. Take a bus 54 S Lockheed Martin, arrive at the Intersection between Mathilda & San Aleso Avenue
5. Cross the street on the left, Visit us at 762 San Aleso Avenue, Sunnyvale, CA 94085.



# Academic Calendar

2010

## Traditional Trimester Scheduling

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## **1. ADMISSIONS**

To apply for our school either fill out the online application form (<http://www.csbu.us/application.html>), or pick up an application form from the administration office.

### **Admission Policies**

- 1. CSBU admits all qualified individuals into the university without regard to race, religion, sex, ethnic origin, or physical handicap.**
- 2. CSBU makes education available to all individuals who need the qualifications for entrance into CSBU**

The CSBU Admissions Committee provides individualized admission evaluation service and follows the approved credit transfer policy to transfer credit for each application.

### **Applications**

All CSBU Applications must include:

1. Completed CSBU Application Form (hard copy, can only be submitted once every academic year).
2. Copy of photo ID
3. Non-refundable Application Fee (\$50).
4. International applicants must submit their financial statements in support of proof that their ability to afford their first year living and education expenses
5. Submit official transcripts from all previous colleges attended and certified English translation if transcripts are from non-English countries.
6. Submit a TOEFL score within the last two years to verifying your English Proficiency if English is not your first language. (IELTS might be acceptable upon evaluation)
7. Recommendation letters (optional)

### **Admission Procedures**

1. The applicants are encouraged to consult our admission counselors before submitting their application.
2. The applicants will complete the Admission Application package and submit the application package to our admission office.
3. The applicant need successfully complete the placement test.
4. The applicants will provide official academic transcripts and diplomas of any high schools or higher educational institutions they attended. The transcripts and diplomas are subject to be evaluated by our Academic Office.
5. The applicants will be informed with a letter by our admission office once our admission office reaches any decisions.
6. An advisor will be assigned to the admitted applicants to complete the enrollment process before the class starts. The applicants need to:
  - a. Sign the Enrollment Agreement
  - b. Be notified of the Notice of Student's Rights
  - c. Read the School Policy

### **Cancellation of Admission and Readmission**

If an applicant is accepted into a degree program for a given semester and does not begin classes in that semester, admission will automatically be cancelled.

The prospective student's application records (transcripts from previous colleges and American language proficiency records) are kept on file for a period of six months from the semester start date. If the applicant then wishes to be considered for readmission in a later semester, he/she will be required to resubmit 1) an application form, and 2) pay a readmission fee. A re-evaluation of admission will be made for the applicant.

### **Trimester Admissions:**

Applicants may apply for admissions into any of the three Trimester Terms each year. (January, May, and September)

### **Entry Status**

Unless otherwise determined by the Admissions Committee, all newly admitted students are to have "Entry Status" at CSBU. After the successful completion of two terms, or 18 credit units, students will automatically become "Full Status" students.

### **Transfer Credit**

- Credit units earned at other universities, colleges and educational institutions may be transferred into CSBU as evaluated by the Admission Committee.
- Awards of academic credit may be granted to students who demonstrate competency in a subject area based on their academic, occupational, as evaluated by the Admissions Committee individually.

### **Master's Degree**

The minimum requirements for admission are as follows:

- Evidence of baccalaureate degree or an equivalent diploma in keeping with the documentation practices of applicants' home countries or demonstration of equivalent skills, training and experience as evaluated by the Admissions Committee.
- Students seeking to transfer credit will be evaluated based upon the documents customarily maintained by the institutions of their home countries as well as their individual, educational and experienced-based background as evaluated by the Graduate Admissions Committee.
- The Graduate Record Examination (GRE) general test or GMAT for MBA applicants is preferred, but not required.

The minimum requirement of a Full Time master's enrollment is as follows:

- Enrolling in 9 credit units in two out of the three trimester terms throughout one year of study per 12 month period, starting from the student's first day of class attendance.

## 2. FINANCIAL INFORMATION

### Tuition and Fee per Trimester:

Application fee (domestic students) (One-time fee, nonrefundable, sent with each application form)	\$ 50.00
Tuition for graduates (per credit unit for all courses & thesis)	\$295.00
Tuition for ESL program (per credit unit)	\$100.00
Registration fee	\$ 50.00
Late registration fee <sup>1</sup> (Trimester Scheduling only)	\$100.00
Student association membership (per trimester)	\$ 10.00
Late payment fee	\$ 50.00
Class Drop Fee	\$ 20.00
Class Add Fee	\$ 20.00
Fee for filing petition for incomplete grade	\$ 50.00
Fee for course examination under <i>Challenge Test Option</i>	\$ 100.00
Graduation fee (when file in for graduation request)	\$ 280.00
Cooperative education fee (per graduate credit unit)	\$ 295.00
Academic transcript fee (per copy)	\$ 10.00
Returned check fee	\$ 20.00

<sup>1</sup>*Nonrefundable, regardless of the number of credit hours registered*

### Financial Obligations and Refunds

Students may formally withdraw from a class by handing in a completed *Course Drop Form* obtained from the office. If a student withdraws from a course, he/she may be eligible to receive a refund, the amount of which will be in accordance with the following chart. The student must return all the checked out items such as library books and equipment prior to refund. The detailed refund schedule for a typical 3 credit unit class is as follows:

<u>Date of Withdrawal</u>	<u>% of tuition refundable</u>
Before the first day of a trimester	100%
Before the 2nd meeting of class Or the 4 <sup>th</sup> class hour	90%
Before the 3rd meeting of class Or the 7 <sup>th</sup> class hour	75%
Before the 4 <sup>th</sup> meeting of class or the 10th class hour	60%
After 4 <sup>th</sup> meeting of class Or the 12 <sup>th</sup> class hour	no refund

### CSBU's student on-campus work-study opportunities

Limited openings are available to CSBU students. CSBU work-study application forms are available at the Information desk.

Students may apply for Learning Assistantships (LAs) and Administrative Assistantships (AAs). These assistantships are offered primarily on the basis of outstanding academic and professional achievements.

Each trimester, the administration works with the faculty to assign LAs. The purposes of LAs are to assist faculty by grading student homework and to help students by holding office hours in order to tutor students who have questions about the instructor's class. They are available at the LA office when the instructors may not be available.

The University also assigns administrative AAs to provide computer systems and administrative services for students including computer systems support, campus direction, school information and administrative routine assistance.

**The objectives of offering assistantships are as follows:**

To provide students with more convenient assistance in mastering knowledge they have learned in class;

To promote student-to-student and student-to-faculty communication and academic contact;

To improve assistants' abilities in solving problems as team leaders and in-handling assignments as qualified professionals.

**Industrial cooperative projects and internships opportunities**

Highly selective internship opportunities are available for qualified students with a number of local companies. For further information, please contact the Administration Office.



### **3. Enrollment**

#### **Adding and Dropping Courses**

Unless otherwise determined by the Academic committee, students are not allowed to add any courses after the sixth week of instruction. Students that wish to drop a course must do so before the fourth week of instruction to not have it affect their grades. Dropping a course after the fourth week of instruction will result in a grade of WP or WF, depending on whether the student passed or failed the course before the time of dropping. Refund of tuition will be issued for a dropped course as stated in the Financial Obligations and Refunds section.

The deadline for dropping an On-Demand course is before the 12<sup>th</sup> instructional hour of class (or its equivalent in lab hours, practicum hours, or a combination). Refund of tuition will be issued for a dropped On-Demand course as stated in the Financial Obligations and Refunds section.

Holders of fellowships, assistantships, tuition and fee waivers, and student visas must maintain the required number of credit hours or risk losing their tuition and fee waiver for the term. Students who lose their waivers must pay the full cost of tuition by themselves.

#### **Advisors**

All students must have an academic advisor in programs in which the students seek a degree. The academic advisor will assist in planning a program of study that both fits the needs of the student and satisfies the program requirements. *Advisor approval is required for registration.*

#### **Continuation and Probation Rules**

Students are considered to be in good standing if they:

- Have achieved Full Status
- Are not on probation
- Are making satisfactory progress towards degree requirements, including a project or thesis if required.

#### **Course Load**

Graduate students who enroll for at least 9 credit hours will be considered to be full time students.

#### **Satisfactory Academic Progress**

CSBU will assess the academic progress of all its students at the end of each term.

A graduate student will be placed on academic probation if after attempting at least 18 credit hours his/her GPA is less than 2.0 or the student has earned less than 9 credit hours. The graduate student will also be placed on academic probation if, after attempting at least 27 credit hours, the student's GPA is less than 2.0 or the student has earned less than 18 credit hours.

If a student takes the failed course more than once, the higher grade will be used in calculating the cumulative GPA (CGPA). However, all credit hours, whether the subject is original or the repeated course, are included as credits attempted.

Students who reestablish satisfactory progress will be removed from academic probation. Students who fail to clear their academic probation within five

academic terms will be dismissed.

Students on academic probation who change programs or seek additional degrees will remain on academic probation and their previous CSBU academic record will be used to determine the satisfactoriness of their academic progress.

To address special circumstances, students may appeal by filing petitions to the school's Academic committee.

### **Classes – Scheduling Hours**

Most classes at CSBU are between 5 p.m. and 10 p.m. weekdays, or on the weekends, meeting one day per week. A few courses are scheduled between 9 a.m. to 5 p.m. (For more details please contact front desk).

### **Credit Hours for Courses**

Academic credits are measured in terms of credit hours. One credit hour is equivalent to one trimester term hour, where one trimester credit hour is equivalent to 15 classroom hours of lecture. Additional, one semester credit hour equals 30 laboratory hours and one semester credit hour equals 45 practicum hours.

### **Grading System**

The following grades are used:

<b>Grade</b>	<b>Grade Point</b>	
A	Excellent/Distinction	4.00
A-	Intermediate grade	3.67
B+	Intermediate grade	3.33
B	Above Average	3.00
B-	Intermediate grade	2.67
C+	Intermediate grade	2.33
C	Average/Minimal	2.00
C-	Intermediate grade	1.67
D+	Intermediate grade	1.33
D	Minimal Pass / Below Average	1.00
D-	Intermediate grade	0.67
F	Failure	0.00
W	Withdrawal	
S	Satisfactory (pass-fail option)	
U	Unsatisfactory (pass-fall option)	
NCR	No Credit	
E	Deferred Grade	
R	Deferred Grade-Project/Thesis	
TR	Transfer credit	
CR	Credit by passing challenge examination (Grade equals C or better)	
IP	In process	
AU	Audit	
I	Student Incomplete	
X	Instructor Incomplete	

<b>Course</b>	<b>Course Designations</b>
100-399	freshman, sophomore, junior level courses
400-499	senior level and mezzanine graduate courses
500-799	Graduate level courses

GPA calculation: All GPA's are calculated by the following formula: grade points times' course credit=course grade points; total course grade points for the term divided by total calculable credits for the term=grade points average for the term. The term GPA is based on all courses with calculable in a term; the cumulative GPA is based on all courses with calculable grades. Students may retake any course at any grade level below an "A". All grades will be recorded, but only the first retake grade recorded will be computed on the final graduation record. Retakes are noted by "R".

A grade of at least C- or P is required for master's degree programs. However, all registered credit hours are counted as attempted credit hours and all grades except I, P, NP, WP, WF, AUD and NR are used in computing the GPA. A graduate student must earn a cumulative 2.0 or above GPA to be eligible for the master's degree.

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

### **Registration**

Registration procedures and class offerings can be found in the Class Schedule or on the school website each semester. Students are responsible for the complete and accurate processing of their registration according to the guidelines.

New students may register during the designated period at the beginning of their first term or during the late registration period. Currently enrolled students should register during the pre-registration period in the previous term or the registration period of the current term. Continuing students who wait to register at late registration will be assessed a late registration fee.

### **Repetition of Courses**

Students can repeat a course for credit if:

- The course is designated with the phrase "May be repeated for credit."
- The course is the one in which a grade of I, D, F, WF or WP was received. In such cases, the course can be repeated and counted only once toward the degree requirements if the student passes the class.
- Or with the permission of the Academic committee on a case-by-case basis.

### **Limits on Transfer Credit**

The specific number of credit hours accepted for transfer is determined on an individual basis and is not automatic. For graduate degrees, no more than 25 percent of the credit hours can be transferred unless otherwise determined by the Academic committee. This limit includes courses taken as a non-degree student. Transfer credits for individual courses are accepted only when the student has received a grade of B or above.

### **Auditing Courses**

Students wishing to audit a class must provide a form bearing the approval of the instructor and the administration office and file it with the Office of Admissions and Records.

### **Policy for Incomplete Grade**

In order to receive a grade of "I", the student must file a petition with the Registrar prior to the final examination week after obtaining written approval from the instructor of the course he/she wishes to receive a grade of "I" in. The grade "I" is used only for circumstances or situations beyond the student's control. An "I" that is not removed by the deadline will remain on the student's record as an "I", with no credit earned, and will not be computed in the student's GPA.

### **Placement Test Option**

CSBU recognizes that exceptional students, for various reasons may have already achieved the learning objective of a course, so a *Placement Test Option* is provided. At the discretion of the instructor and the Academic committee, CSBU offers a *Placement Test Option* for students to see if they have the proper background and prerequisites for the advanced courses. If a student fails this test, he/she cannot retake the test for this course again and must enroll and pass the corresponding course. The results of the Challenge Test will be recorded in the transcript.

### **Attendance Policies**

**Absence** --- Absence will be considered excused under the following circumstances: illness, death, or birth in the immediate family, and other valid reasons substantiated in writing and at the discretion of the school director. All other absences will be considered unexcused. Students who have three or more than three absences will be automatically dropped from the class.

**Tardiness** --- Tardiness is a disruption of a good learning environment and is to be discouraged. Tardiness without legitimate reason on three occasions in one class will be considered as one unexcused absence.

**Cutting Classes** --- Cutting of classes will be considered as unexcused absences

**Make-Up Work** --- Make-up work may be required for any absence. However, hours of make-up work cannot be accepted as hours of class attendance.

**Leave of Absence** --- Written requests for leaves of absence will be considered and such leaves may be granted to students at discretion of the school.

## **4. University Regulations**

### **Academic Grievance Procedures**

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

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

### **Formal Procedure**

If the situation is unable to be resolved through any reasonable informal method, a student or employee may escalate it to a grievance. A formal grievance must be filed within 45 days from the time the student or employee believes, or reasonably should have known, that an occurrence has affected his/her status. This period of 45 days includes all informal efforts to resolve the grievance. The student must fill in and submit the grievance form to the Administration Office and a proper administrator will conduct an investigation of the grievance and may interview the student and other people related with the grievance for further clarification. After the investigation, the administrator will either grant or deny the students suggested resolutions or provide other means of resolution. The decision will be notified no later than 14 days following receipt of the written grievance. If the administrator does not resolve the situation in a way that is satisfactory to the student, the student has 14 days to appeal the decision to president of the university upon written receipt of the appeal. The president then has 14 days to notify the student of his decision, either grant or deny the redress sought or provide other resolutions. The president's decision is final. The student will be further advised that any unresolved grievances may be directed to the Bureau for Private Postsecondary Education, 1625 North Market Blvd., Sacramento, CA 95834,

### **Academic Integrity**

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

### **Confidentiality of Student Records**

CSBU complies fully with the Faculty Educational Rights and Privacy Act of 1974, and may release directory information, including name, phone number, address, and major field of study to any person on request unless a student requests in writing that his/her directory information be kept confidential. CSBU will safely keep student records for an indefinite period of time. Certain records are excluded by law from inspection. Specifically, those created or maintained by a physician, psychologist or psychiatrist, in connection with the treatment or counseling of a student. Students may ask for a copy of their records in the Office of Admissions and Records. Students may direct complaints regarding their academic records to the Registrar.

### **Nondiscrimination Policy**

The commitment of CSBU to the most fundamental principles of academic freedom, equality of opportunity, and human dignity requires that decisions involving students and employees be based on individual merit and be free from invidious discrimination in all its forms, whether or not specifically prohibited by law.

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

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

### **Sexual Harassment Policy**

Sexual harassment is defined by federal and state laws and regulations, including but not limited to any unwanted sexual gesture, physical contact, or statement that is offensive, humiliating, or any interference with required tasks or career opportunities at CSBU.

CSBU will not tolerate sexual harassment of students or employees and will cooperate with governments, public services or agents, and legal enforcement departments to provide remedies when such harassment is discovered.

### **Encumbrance of Registration and Records**

Students who owe any money to CSBU will not be permitted to register, will not be entitled to receive an official transcript of their credits, will not be entitled to receive their diplomas, and will not be entitled to receive certification for practical training for foreign students until their indebtedness has been paid.

## 5. DEGREE PROGRAMS & REQUIREMENTS

CSBU's graduate programs are designed to prepare students for the practice of computer science and business administration at a professional level. In addition to courses teaching the fundamentals, each degree curriculum is designed to incorporate Silicon Valley's major industries in computer engineering, enterprise management, and global business development.

As Silicon Valley is a dynamic and fast changing high-technology hub where fierce competition among businesses is the norm, employers are more demanding on workers' qualifications. Job seekers in the Valley are required to be well prepared in their background training as well as continued education.

CSBU's curriculum committees in various disciplines hold regular meetings to ensure that the curriculum design and facility support in hardware and software can meet the industry standards. Further, faculty members must have had previous or current industry experience and are equipped with up-to-date knowledge and skills in their teaching subjects.

### Degree Titles and Specialization

- 1.) Masters of Business Administration (MBA)
- 2.) Master of Science in Computer Science (MSCS)
- 3.) Master of Science in Electronic Engineering (MSEE)
- 4.) Master of Science in Solar Power Technology and Management (MSGTE)
- 5.) English as Second Language Program (ESL)



# School of Business:

## **Purpose**

The School of Business offers graduate degree programs. This is an educational program in the business and organizational disciplines intended to prepare individuals to make sustained contributions to organizations and society in a global, diverse and dynamic environment, focusing on developing an individual's interdisciplinary problem solving skills, interpersonal and communication skills, ability to adapt to changing information technology and business environment, spirit of entrepreneurial innovation, and ethical and professional values. Successful completion requires not only an understanding of the important functional skills in accounting, financial management, marketing, business law, and business and project management, but also an understanding of modern information systems, internet technology pertinent to e-commerce and e-business applications.

To help the students gain real-world experience, an enterprise resource-planning tool, such as SAP software, is integrated into the business curriculum. A number of faculty members will guide the students to practice using SAP software and its applications in an enterprise environment.

## **Faculty**

CSBU's emphasis on a community of scholars and integrated education attracts faculty who are as committed to their students' intellectual and moral development as they are to pursuing their own scholarship. CSBU's full-time faculty members in school of business include experienced professors with advanced degrees in Business Administration and love teaching and helping students to solve problems on academic studies.

## **Objectives**

**Problem Solving:** Each student will be able to systematically diagnose problems and/or opportunities, especially in business settings, and develop alternative courses of actions to resolve the problems or take advantage of the opportunity.

**Strategic Thinking:** Each student will have an understanding of long-range/strategic management and will be able to develop, implement, assess, and refine a strategic plan in a business setting.

**Organizational Change:** Each student will be able to systematically diagnose an organization's environment and operations to identify needed changes and to develop plans to successfully implement those changes in ways that achieve the organization's goal(s).

**International/Global:** Each student will have an understanding of global influences on business decisions/plans and/or develop plans for managing a business in a global environment.

**Workgroup Functioning:** Each student will be able to contribute to the success of his/her workgroup by occupying a leadership role and/or as a team member.

# Master of Business Administration (MBA)

## Objectives

The primary objectives of the master's degree program are: (1) to provide a knowledge base of interdisciplinary business theories and techniques to the students, particularly to the working adult population, and (2) to train and to develop students' practical management skills in a chosen concentrated area for career development, and (3) to develop the students' decision-making capability to face the challenge of the dynamic business world staged with diverse, multicultural, and global business settings.

**Concentration of Study:** The MBA program provides an opportunity for the student to choose from a variety of concentration areas including: information technology and enterprise management systems, accounting, project and technology business management, global business marketing, legal issues, and intellectual property management

**Graduation Requirements:** A minimum of 36 units is required, 12 from each of the following categories, Basic courses, Electives, and Area of Concentration. Students must also makeup for any background deficiencies by taking additional courses even if 400 level courses may be used as elective units. A grade of "B-" or better must be earned in all basic courses and area of concentration, and a grade of "C-" must be earned for all elective courses. GPA 3.0 or better is required, and students must be in good standings with the university. After fulfilling the requirements stated above, the student may file a petition for graduation and if approved, may graduate.

## Concentration Area and Career Planning

All graduate students in the MBA program at CSBU are advised to plan for their studies and choose a concentration area early. Before or upon completing 12 units in graduate course work, the student must choose a concentration area. Academic counselors are on-hand to assist the student to make his/her study plan and assess the technology trend and job market.

The students are encouraged to work with Student Services counselors to prepare their resumes and participate in job search activities when they are ready for such a pursuit.

**Master Project/Thesis:** Students interested in doing research and development work may choose to do a 3-unit master's project or 6 unit master's thesis to earn elective units. Students should pay attention to the requirements for completing the project/thesis.

**Advisor:** The master's thesis course may be registered as a two-part course, with each part as a 3-unit course, taking a total of two semesters to complete. A faculty member serves as the project/thesis advisor to offer guidance to the student.

**Repeat:** A student unable to complete the project/thesis in the semester he/she is enrolled in the course is required to continue to enroll in the course the following semester until completion of the project/thesis. Upon completion of the project/thesis, the student or the project team is required to submit a project/thesis report, following the university's project report guide, to the project advisor for approval before submitting it to a technical writer for editing. The student or the project team must also arrange an open-forum presentation to share the work experience with other students.

### **Grade**

The student receives an "S" or letter grade for satisfactory performance and earns the credits, or an "NP" grade for unsatisfactory performance without earning credit in each semester the project is being conducted. Letter grades issued by the advisor are acceptable. Extra credits earned for repeatedly taking the project/thesis cannot substitute for other course requirements.

### **Electives**

In addition to the seven waivable required courses and the 9 non-waivable required courses discussed above, students select 24 units of elective credit to complete their MBA program. Any course offered in conjunction with the MBA program with the exception of those otherwise required or waived is considered an elective.

The student receives an "S" or letter grade for satisfactory performance and earns the credits, or an "NP" grade for unsatisfactory performance without earning credit in each semester the project is being conducted. Letter grades issued by the advisor are acceptable. Extra credits earned for repeatedly taking the project/thesis cannot substitute for other course requirements.

### **Changes in Degree Requirements**

CSBU policies and requirements are subject to change, and changes may not be immediately reflected on campus websites or publications. New degree requirements, however, will not be imposed retroactively on continuing students unless agreed upon by the students. If degree requirements are changed, students may complete their degree programs under the requirements in effect at the time of their initial enrollments (readmission, if they have discontinued degree status). They have the option of electing to be governed by the new requirements if they are so desired and provide that all requirements of one catalog are met.

### **MBA Background Preparation**

Students admitted to the MBA degree program are required to have proper business background preparation for taking the graduate level coursework. The student must clear all deficiencies before being allowed to take the degree required courses. A student with deficiency in any required background subject must clear it by either 1) taking courses for credits at CSBU and earning a grade of at least C- or higher or 2) taking and passing the appropriate preparatory module of studies. With advance approval by the academic review committee, the student may be allowed to take proficiency exams to clear his/her background requirements. The following are the required background subjects:

A. Management and Business Law (MGT320, MGT461, MGT491, MGT511, MGT 516, MGT 520, MGT525, MGT540, MGT550, Law 420)

B. Economics and Marketing (MKT514, MKT551)

C. Accounting and Finance (ACC320, FIN 410, FIN520)

D. Quantitative Analysis and Information Technologies

## MBA Curriculum

The MBA program requires a minimum of 36 semester units of graduate study. A maximum of four 400 level courses are allowed to count towards graduation credits. Before the student takes any one the courses below he/she must meet the prerequisite requirements.

### 1.) Basic Courses (12 credits)

The basic courses provide a base for interdisciplinary business theories and techniques and decision-making methodology. A student must take the following courses to complete the required graduate course requirement:

MGT511	Human Resources Management
BUS520	Quantitative Methods for Business
MGT516	Production and Operations Management
FIN520	Financial Management



### 2.) Area of Concentration (12 credits)

Apart from required graduate courses in section 1, students must additionally select an area of concentration and complete at least 12 credits (4 courses) in the chosen concentration area. This is to ensure the student is competent in the selected area. The courses taken to fulfill the concentration requirement must not overlap the courses taken for the above Foundation Courses requirement. As new courses are also offered between publications of the university catalogs, the students are advised to refer to the "Concentration Area Course Tables" published with each release of the semester class schedule to select courses for meeting the concentration area requirements.

#### **Area A. Project Management**

(Prerequisites: Advanced graduate standing)

Required courses:

MGT520	Project and Risk Management
MGT540	Managing for Quality Improvement

Select two other graduate courses in this concentration area.

**Area B. Global Business and Marketing**

(Prerequisites: MKT460 Marketing Management)

Required courses:

MKT551 Strategic Marketing

MKT552 International Marketing

Select two other graduate courses in this concentration area.

3.) Electives (12 Credits)

Students may elect graduate-level courses 400 or 500-level, and higher courses in any discipline as electives to meet the elective requirements.

**Mezzanine Courses** for program requirement - Students admitted with a background deficiency in organizational behavior and management must take the course of MGT461 Organizational Behavior and Management course and those with a deficiency in Entrepreneurship and Venture Business must take "MGT491 Entrepreneurship and Venture Business " course at CSBU. Credits earned can be counted as elective credits towards the MBA graduation requirements.

\* Other background requirements for the concentration areas: Each concentration area requires certain 400 level background courses. Students may earn credit towards the degree, if observing the limit for the number of 400-level courses for the program, by taking these courses, such as

a. Area A (Project Management): MGT461

b. Area B (Global Business and Marketing): MKT460

**MBA TOTAL REQUIREMENT (36 CREDITS)**

# School of Engineering

## **Purpose**

The master's degree programs in the School of Engineering are designed for students who intend to become professional engineers in the high-technology electronics or computer industry, as well as for those who desire a modern, general education based on the problems and the promises of a technological society. The environment in which students are educated is as important in shaping their future as their classroom experiences. The School of Engineering offers a friendly atmosphere and a variety of academic programs that have made CSBU engineering graduates highly valued in high-tech firms and the Bay Area communities.

## **Faculty**

All CSBU engineering faculty members possess the following qualities: advanced degrees earned in engineering and science disciplines, high-tech work experiences, and enthusiasm in teaching and helping the students. Engineering is not a homogeneous discipline; it requires many special talents. Some faculty members in the School are goal-oriented designers, concerned with teaching students how to solve problems -- how to synthesize relevant information and ideas and apply them in a creative, feasible design. Other engineering faculty members function more typically as method-oriented scientists, using the techniques of their disciplines in their teaching and research to investigate various natural and artificial phenomena.

## **Objectives**

To provide each student a goal-oriented education by tailoring each student's study plan based on the student's background and interests.

To provide in-depth professional training in a range of state-of-the-art specialty areas in electrical engineering, computer systems engineering, and computer science, equipping the student with both a theoretical background and practical experience in these disciplines.

To provide relevant laboratory experience throughout each program as an integral part of the education, emphasizing extensive use of simulation and hands-on practice in the learning process.

To nurture a learning environment which leads to professional values recognizing high quality and integrity in truly complete engineers.

To provide further advanced training and professional development for graduate students who wish to practice their profession with increased competence.

## **GRADUATION REQUIREMENTS**

A minimum of 36 credits of graduate-level course work are required for all master's degree programs. Additional coursework may be required for a student whose undergraduate degree program was in a Discipline other than that of the master's degree program.

In each master degree engineering program, there are four categories of course requirements:

1. Required graduate courses
2. Area of Concentration courses
3. Courses for breadth of study
4. Advanced electives

**The following are required for graduation:**

- A graduate student entered with under graduate deficiencies must clear the deficiencies in the first few semesters after joining CSBU. The student may clear a subject by either taking the course and earning a passing grade or passing a proficiency exam on the subject.
- Earn a grade of “B-” or better in all required and concentration area courses.
- Earn a grade of “C-” or better in all elective courses.
- Maintain overall G.P.A of 3.0 or better
- Maintain good standing with the university
- The student is approved to graduate after filing a petition for graduation courses numbered in 500’s and above are graduate courses.

**CONCENTRATION AREA AND CAREER PLANNING**

All graduate students pursuing engineering degrees at CSBU are advised to plan for their studies and choose a concentration area early. Upon completing 12 credits in graduate course work, the student must choose a concentration area. Academic counselors are on-hand to assist the students to make their study plans and assess the technology trend and job market. The students are encouraged to utilize the online e-career center and work when they are ready for such a pursuit.

**MASTER’S PROJECT/THESIS**

Master’s degree students interested in research and development work may choose to take a 3 credits master’s project or a 6-unit master’s thesis to fulfill the requirement in either the concentration area or elective course work. The information packages concerning the project/thesis requirements and guidance are distributed to the enrolled students in the project/thesis orientation workshops held twice each semester. The information is also posted on CSBU’s website in the CSBU online service center.

**ADVISOR**

A faculty member serves as the project/thesis advisor to offer guidance to the student. The master’s thesis course may be registered as a two-part course, taking a total of two semesters to complete. A student unable to complete the project/thesis in the semester he/she is enrolled in the course is required to continue to enroll in the course the following semester until completion of the project or thesis. The student receives either an “S” or letter grade for satisfactory performance and earns the credits or an “NP” grade for unsatisfactory performance without earning credit in each semester the project is being conducted. Extra credits earned for repeatedly taking the project/thesis course cannot substitute for other course requirements.

# Master of Science in Electrical Engineering (MSEE):

## BACKGROUND PREPARATION

Students admitted in to the MSEE degree program are required to have the following Background preparation. A student with any deficiency is required to clear it by either (1) taking the course at CSBU or earning a grade of at least C or higher or (2) taking and passing a proficiency exam on the subject. The student is advised clear all deficiencies before attempting to enroll in graduate level courses.

### 1. ELECTRICAL ENGINEERING SUBJECTS:

- Circuit theory and analysis (EE400, EE420)
- Digital circuits and logic design (EE206, EE450)
- Analog Circuits (EE431)

### 2. COMPUTER SCIENCE SUBJECTS:

- Programming language and logic (CS414); Students choosing Embedded Engineering concentration also require a background in CS 460, CS470.
- Unix/linux operating system (CS440); Students choosing Embedded Engineering concentration also requires a background in CS490.

### 3. MEZZANINE COURSE: (Students with a back ground deficiency can take courses EE515 and earn graduate credits )

## MSEE Curriculum

A minimum of 36 semester units of graduate study are required for the MSEE Program. A maximum of four (4) 4xx courses (400 level courses with a designation taken as elective courses) are allowed to count towards graduation credits. The student must meet prerequisite requirements when taking any of the following courses.

### 1. Basic Courses (12.0 Credits)

The required courses emphasize understanding the mathematics and modeling Techniques for circuits and other engineering systems, and the design of Modern Computers. A student must take the following two courses to complete the required Graduate course requirement. These two courses cannot be used to meet concentration course work requirements.

EE521 Advanced Engineering Analysis  
EE524 Advanced Computer Organization and Structure  
EE562 Application Specific Integrated Circuit Design  
EE585 Image Processing and Applications

### 2. Area of Concentration (12.0 Credits)

In addition to the two required graduate courses in section 1, a student must select an area of concentration and complete at least 12 credits (four courses)

listed in one chosen concentration area. This is to ensure the students competence in a selected area.

a. Area A: Chip Design and VLSI

Required Courses:

EE525	Digital IC Design
EE536	Advanced Digital IC Design
EE547	Analog/Mixed Signal IC Design
EE558	VLSI Physical Design-Place and Route

**3. Courses for Breadth of Study (6.0 Credits)**

The student is required to take at least 6 Credits in graduate course work outside the chosen concentration area to broaden his/her knowledge in one or two application areas. For example, a student choosing the chip design and VLSI concentration is encouraged to select one or two courses in the DSP applications such as the course EE590. Courses for breadth of study may be at 400 level with a designation or 500 level and above. The student must observe the limits on the number of 400 level courses with a designation.

**4. Electives (6.0 Credits)**

The student may elect graduate-level courses in any discipline, in or outside the Chosen concentration area, to meet the elective requirements. Elective courses May also include mezzanine courses taken to meet the background requirements For the chosen concentration area. The student must observe the limits on the Number of 400 level courses with a designation.

**Mezzanine Course for Program Requirement**

Students admitted with a background deficiency in microprocessor structure may Take the course “EE515 Microcomputer Structure and Programming” at CSBU. Credit earned can be counted as elective credit towards the MSEE graduation Requirements.

\* Other Background Requirements For The Concentration Area:

- Each concentration area requires certain 400 level background courses. Students may earn credit towards the degree, if observing the limit for the number of 400Level courses for the program, by taking these courses, such as EE465, EE470, and EE481.

**MSEE TOTAL REQUIREMENTS (36 credits)**

# Master of Science in Computer Science (MSCS)

## BACKGROUND PREPARATION

Students admitted in to the MSCS degree program are required to have the following background preparation. A student with any deficiency is required to clear it by either (1) taking the course at CSBU and earning a grade of at least C-or higher or (2) taking and passing a proficiency exam on the subject. The student is advised to clear all deficiencies before attempting to enroll in graduate level courses.

### 1. ENGLISH/COMMUNICATION:

- Statistics (MATH 220)
- English communication (one of the following: CS407 or a college English course)

### 2. COMPUTER SCIENCE SUBJECTS:

- Programming languages and Data structures (CS414, CS 460, CS470);
- Operating systems (CS440, CS490)

### 3. ELECTRONIC SUBJECTS:

- EE206, EE400, EE420

### 4. MEZZANINE COURSES: (Students with a background deficiency can take these courses and earn graduate credits)

- Database Design (CS527)
- Computer Networks (CS530)

## MSCS CURRICULUM

A minimum of **36 semester units of graduate study** are required for the MSCS program. A maximum of four (4) 4xx courses (400 level courses with a designation taken as elective courses) are allowed to count towards graduation credits. The student must meet prerequisite requirements when taking any of the following courses.

### 1. Basic Courses (12.0 credits)

The required courses emphasize understanding of (1) the principles and architecture of Computer networks and (2) the design of modern operating systems. A student must take the following two courses to complete the required graduate course requirement. These two courses cannot be used to meet concentration coursework requirements.

CS511	Computer Architecture
CS527	Database Design
CS543	Advanced Computer Networks
CS546	Operating System Design

## **2. Area of Concentration (12.0 credits)**

In addition to the three required graduate courses in section 1, a student must select an area of concentration and complete at least 12 credits (four courses) listed in one chosen concentration area. This is to ensure the students competence in a selected area. As new courses are also offered between publications of school catalogs, the students are advised to refer to the “Concentration area courses tables published with each release of the semester class schedule to select courses for meeting the concentration area requirements.

### Area A. Internet Technology and Digital e-Business Systems

- Required courses:  
CS560      NET Web Programming  
CS572      Advanced Java Programming

Select two other graduate courses in this concentration area.

### Area B. Database Technology

- Required courses:  
CS580      Database Administration  
CS587      Advanced Database Design and Development

Select two other graduate courses in this concentration area.

## **3. Courses for Breadth of Study (6.0 credits)**

The student is required to take at least 6 units in graduate course work outside the chosen Concentration area. The courses may be at 400-level or 500-level and above. The student must observe the limits on the number of 400-level courses with a designation.

## **4. Electives (6.0 credits)**

The student may elect graduate-level courses in any discipline, in or outside the chosen Concentration area, to meet the elective requirements. Elective courses may also include Mezzanine courses taken to meet the background requirements for the program and/or for the chosen concentration area. The students must observe the limits on the number of 400 level courses with a designation.

### **Mezzanine Courses for Program Requirement**

Students admitted with a background deficiency in (1) database design and/or (2) computer networks must take the courses (1) “CS527 database design” and/or (2) “CS530 computer networks” at CSBU. Credit earned can be counted as elective.

\* Other background requirements for the concentration area:

Each concentration area requires certain 400 level background courses. Students may earn credit towards the degree, if observing the limit for the number of 400 level courses for the program, by taking the courses such as CS540.

**MSCS TOTAL REQUIREMENTS (36credits)**

# School of Green Energy

## Purpose

The main purpose of the School of Green Energy (SGE) is to create manpower through education in renewable energy technology and management, as well as fulfill educational elements that build the ability to think, analyze and evaluate. Currently SGE offers master degree program in Solar Power Technology and Management with concentration area in solar photovoltaic technologies. By 2010 the school hopes to add more specializations in areas such as fuel cell systems and technologies, and bio-fuels and bio-energy. With a friendly school atmosphere and the unique multi-discipline program, our graduates are well prepared as future leaders in the rapidly growing green-energy industry.

## Faculty

Our faculty members are first and foremost committed to facilitating and communicating with students for the sake of each student's success. They possess the following qualities: advanced degrees earned in engineering and science disciplines, high-tech work experiences, and enthusiasm in teaching and helping the students. Green-energy technology is not a homogeneous discipline; it requires many special talents. Some faculty members in the school are goal-oriented designers, concerned with teaching students how to solve problems, how to synthesize relevant information and ideas and apply them in a creative, feasible design. Others are method-oriented scientists, using the techniques of their disciplines in their teaching and research to investigate various natural and artificial phenomena.

## Objectives

The school strives to foster and promote an environment conducive to teaching and learning as well as excellence particularly in green-energy technologies. The objectives of the school are as follows:

- To develop program of study relevant to industrial and national needs
- To produce skilled graduates in green-energy technology and management with a theoretical background and practical experience
- To provide relevant laboratory experience throughout each program as an integral part of the education, emphasizing extensive use of simulation and hands-on practice in the learning process
- To train graduates who have strong fundamentals in relevant areas but at the same time are competent in his or her chosen field of study
- To equip the students with the necessary knowledge and skills in problem solving and analytical thinking
- To provide each student a goal-oriented education by tailoring each student's study plan based on the student's background and interests.
- To provide a well-rounded and balanced undergraduate education through required studies in engineering, natural science, communications, and social science.

## Graduation Requirements

A minimum of 36 credits of graduate-level course work is required for the master degree program, in which 18 credits are from core courses, 9 from

electives, and 9 from project/thesis. Students must also makeup for any background deficiencies by taking additional courses. A grade of "B-" or better must be earned in all core courses, a grade of "C-" must be earned for all elective courses, and a grade of –pass- is required for project/thesis. GPA 3.0 or better is required, and students must be in good standings with the university. After fulfilling the requirements stated above, the student may file a petition for graduation and if approved, may graduate.

## **Concentration Area and Career Planning**

All graduate students pursuing engineering or management degrees at CSBU are advised to plan for their studies and choose a concentration area early. Upon completing 18 credits in core course work, the student must choose a concentration area. Academic counselors are on-hand to assist the students to make their study plans and assess the technology trend and job market. The students are encouraged to utilize the online e-career center and work when they are ready for such a pursuit.

## **Advisor**

A faculty member serves as the project/thesis advisor to offer guidance to the student. The master's thesis course may be registered as a two-part course, taking a total of two semesters to complete. A student unable to complete the project/thesis in the semester he/she is enrolled in the course is required to continue to enroll in the course the following semester until completion of the project or thesis. The student receives either an "s" or letter grade for satisfactory performance and earns the credits or an "NP" grade for unsatisfactory performance without earning credit in each semester the project is being conducted. Extra credits earned for repeatedly taking the project/thesis course cannot substitute for other course requirements.

## **About Green Energy Program**

Our green energy program will help students to be part of a thriving green energy industry. Join California South Bay University program in Solar Power Technology and Installation, and we will help you to prepare for the Entry Level Certificate of Knowledge Exam for the North American Board of Certified Energy Practitioners (NABCEP). Passing the exam indicates industrial approval of professional knowledge of a PV system. Most importantly, our green energy school is accredited by Interstate Renewable Energy Council (IREC). And we always facilitate high quality education to our students for their professional training education.

**California South Bay University is accredited by: IREC**



# Master of Science in Green Energy Technology (MSGE)

## Background Preparation

Students admitted in to the MSGE degree program are required to have the following background preparation. A student with any deficiency is required to clear it by either (1) taking the course at CSBU and earning a grade of at least C or higher, or (2) taking and passing a proficiency before attempting to enroll in graduate level courses. With advance approval by the academic review committee, the student may be allowed to take proficiency exams to clear his/her background requirements. The following are the required background subjects:

### 1. PHYSICS SUBJECTS:

- a. PHYS210; PHYS211

### 2. MATHEMATICAL SUBJECTS:

- a. College level Mathematics in engineering majors (MATH211; MATH220)

### 3. ENGINEERING SUBJECTS:

- a. EE206; EE340; EE420

## MSGE Curriculum

Students need a total of 36 school credits for graduation. The program consists of 4 required courses (Basic Courses), 2 core course (Concentration A), 3 elective courses, and a project-design thesis. Each course counts for 3 credits, and the project-design thesis possesses 9 credits.

### 1. Basic Courses (12 credits)

The Basic courses provide a base for interdisciplinary in solar energy theories and techniques and system designs. A student must take the following courses to complete the graduate course requirement:

- MSGE501 Introduction to Solar Energy Technologies
- MSGE502 Principles of Electric Circuits and Electrical Power Systems
- MSGE503 Physics of Solar Cells
- MSGE504 Photovoltaic Technology Development, Measurement, & Characterization

### 2. Area of Concentration (9 credits):

In addition to the four basic graduate courses in section 1, a student must select an area of concentration and complete at least 6 credits (two courses) listed in one chosen concentration area. This is to ensure the students competence in a selected area. As new courses are also offered between publications of school catalogs, the students are advised to refer to the “Concentration area courses tables published with each release of the semester class schedule to select courses for meeting the concentration area requirements.

### Concentration A: Photovoltaic Technology

- MSGE505 Solar Power System: Design, Analysis, and Installation
- MSGE506 Photovoltaic Manufacturing and R&D
- MSGE602 Thin Film Photovoltaics

**Concentration B: Renewable Energy Economics and Management**

- MSGE603 Solar Thermal Technologies
- MSGE604 Solar Cell Electronic Materials and Devices
- MSGE605 Energy Economics, Management, and Policy

**3. Elective Courses (6 credits)**

Currently seven courses are available for election. As new courses are offered between publications of the university catalogs, the students are advised to refer to the “Concentration Area Course Tables” published with each release of the semester class schedule to select courses.

- MSGE505 Solar Power System: Design, Analysis, and Installation
- MSGE506 Photovoltaic Manufacturing and R&D
- MSGE601 High-Performance Photovoltaics
- MSGE602 Thin Film Photovoltaics
- MSGE603 Solar Thermal Technologies
- MSGE604 Solar Cell Electronic Materials and Devices
- MSGE605 Energy Economics, Management, and Policy

**4. Project/Thesis (9 credits)**

The Thesis/Project (Part-A MSGE598 and Part-B MSGE599) is carried out in the last two sessions of the MSGE degree course for full-time students. Six hours per week in the first session, and twelve hours per week in the second session are devoted to directed laboratory and research work on an approved subject under guidance of members of the lecturing staff. Part-time students may need to attend the University full-time in their final session or attend for one further part-time session, if facilities are not available for the thesis to be done at work. Generally, the thesis involves the design and construction of experimental apparatus together with laboratory tests. A written thesis report must be submitted at the end of each session. Current listed projects are:

- Device Physics: Solar Cell Structure
- Remote Area Power Supply Design
- Hybrid System Design
- Photovoltaic Water Pumping
- Grid Interactive Photovoltaic System
- Building Integrated Photovoltaic
- Economic Issues for Photovoltaics
- Government Policy Issues for Photovoltaics
- Photovoltaic for Developing World

**MSGE TOTAL REQUIREMENT (36 CREDITS)**

# English as Second Language program

## Introduction

California South Bay University's English as a Second Language (ESL) program is designed to equip students with the English language proficiency required to communicate effectively across the entire range of linguistic environments - academic, professional, cultural, commercial, personal and social - encountered in American society. The program seeks to empower students by increasing their capacity for effective communication in the English Language. The program operates by employing a graduated series of levels incorporating increasingly complex conversational, compositional and grammatical forms, as well as by introducing students to some of the major social, cultural and philosophical tenets of the American perspective, providing students with both the language and the insight necessary for realizing their full potential as participants in the American experience.

You are expected to study at least four (4) hours a day from Monday through Friday, a total of 20 hours per week. Each course consists of twelve hours of weekly instruction. Each course is divided into two separate components, with six hours of instruction per week in listening comprehension, oral expression and pronunciation, and six hours of instruction per week in reading comprehension, grammar and written composition. Materials in each course level are designed to develop particular skills in accordance with the instructional standards outlined in the English as Second Language Model Standards for Adult Education Programs published by the California Department of Education.

Applicants' English proficiency is assessed by either taking a standardized test, such as TOEFL or IELTS, or an English placement test administered by CSBU. The result of the test determines whether the student needs to take courses in the English as Second Language program offered by California South Bay University and at what level. The English placement test assesses students' English proficiency in listening comprehension, grammar, conversation, reading, and writing.

## Application Requirements

To apply for ESL admission at California South Bay University, an applicant must submit the following items:

- (1) An application form;
- (2) A nonrefundable application fee \$50.00;
- (3) Official transcripts from previously attended colleges;
- (4) Documentation demonstrating students' English proficiency to assess the qualification for taking degree courses.
- (5) Copy of photo ID

## CSBU Course Description

Notes of course number:

Course No.	Description	Course No.	Description
100-199	Freshmen level courses	200-299	Sophomore level courses
300-399	Junior level courses	400-499	Senior level courses
400-499	Mezzanine courses for graduates	500-799	Graduate level courses

Instructor’s consent/approval: prerequisite containing the phrase of “instructor’s consent” or “instructor’s approval” is an option for the student to request the instructor to assess the student’s ability and background in the listed prerequisite subjects when the student has acquired the background through other means, such as work or other experience.

Graduate standing: Graduate students who have started to take graduate level courses.

Advanced graduate standing: Graduate students who have completed at least two trimesters’ graduate coursework



**ACC320 Principles of Accounting (4.0 Credits)**

This course teaches students the basic foundations for accounting principles. The 6 main topics are: an introduction to basic elements of financial accounting, setting up and using a general journal, how to record and analyze financial transactions, various types of accounts and how to use them, and accounting methods for different types of business. SAP R/3 concepts will be introduced. Students may also use certain kinds of accounting software.  
Prerequisite: Instructor’s Consent

**ACC410 Cost Accounting (3.0 Credits)**

Students taking this course are taught the relationships among cost, volume, and profit, the process and job-order methods; standard costs, activity based costing, variance analysis, quantitative method and models used in management. It also teaches the students how to use their fundamental knowledge in decision making in a business.  
Prerequisite: ACC320 or instructor’s consent

**ACC460 Intermediate Accounting - I (3.0 Credits)**

This course is only for students who are interested in becoming accounting professionals. This course builds on the knowledge obtained in Principles of Accounting series. Students are taught how to understanding financial accounting and accounting standards, required disclosures, financial statement preparation, and an in depth study of current assets, how to calculate revenues and fixed assets. Students will be taught how to use popular accounting tools for both homework and exercises.  
Prerequisite: ACC320 and FIN410 or instructor’s consent

**ACC490 Intermediate Accounting - II (3.0 Credits)**

This course is a continuation of Intermediate Accounting - I (ACC462). Students are taught about current and long-term liabilities, investments, stockholders' equity, post-retirement benefits, leases and cash flow statements.

Prerequisite: ACC460 or instructor's consent

**ACC510 Introduction to Taxation (3.0 Credits)**

This course covers taxation concepts applied to individual's income, deductions, credits, property transactions, and tax accounting methods. An understanding of the concepts will enable students to prepare quality individual income tax returns as a professional. The course will also cover taxation rules governing financial planning.

Prerequisite: ACC320 or instructor's consent

**ACC520 Advanced Accounting (3.0 Credits)**

This course is designed for accounting track graduate students who want to have a complete understanding of the concept of consolidation requirements, consolidated financial statements, and accounting techniques relating to particular types of business and non-business entities. The student will also explore various tax aspects of consolidated financial statements and participate in case studies.

Prerequisite: ACC460 or instructor's consent

**ACC522 Federal Taxation of Business Enterprises (3.0 Credits)**

This course is designed to give students an understanding of the concepts of federal taxation of corporations, partnerships, estates and trusts. An understanding of the concepts will enable students to prepare corporation and partnership tax returns in a professional environment. Also covered are rules governing estates and trusts.

Prerequisite: ACC500 or instructor's consent

**ACC530 Managerial Accounting (3.0 Credits)**

This class applies the essentials of financial accounting to the practice of management. Students will understand cost definitions, cost concepts, cost behavior and cost estimation; also, how cost accounting is applied to manufacturing and service organizations, the principles of planning and control for effective cost-related management, capital budgeting, cash flow statements, and how to analyze financial statements.

Prerequisite: instructor's consent.

**ACC540 Auditing (3.0 Credits)**

In this course, students learn auditing techniques with an emphasis on the Electronic Data Processing environment, audit procedures, practice and programs; working paper preparation and report writing. The students will experience using electronic auditing software to work on their homework and projects.

Prerequisite: ACC212 or instructor's consent

**ACC550 Accounting Information Systems (3.0 Credits)**

This course provides a conceptual framework for contemporary accounting information systems and accounting cycles. It covers database concepts, internal control, transaction cycle and business process, expenditure cycle, conversion cycle, general ledger, and enterprise resource-planning systems. Students may be introduced to SAP R/3 for data manipulation and report generation.

Prerequisite: ACC212 or instructor's consent

**BUS301 Business Communication (3.0 Credits)**

The course aims at improving students' active listening, speaking and nonverbal communication skills. Students will be given the idea of how business communication skills are essential for daily business and professional activities. The lecture will teach students various business writings encompassing professional memo writing, e-mail format and filing, business letters and correspondence, and business reports.

Prerequisites: Placement by English exam or successful completion of advanced ESL classes.

**BUS 320 Principles of Public Relations (3.0 Credits)**

The primary goal of this course is to familiarize students with the basic concepts and principles of public relations. As public relations has become more and more important in contemporary society, taking this course will give you an overview of how public relations as a managerial function contributes to organizational effectiveness. The lectures and exercises/assignments will help you understand how public relations serves as a communicative venue in nurturing a good relationship between an organization and its various publics, thereby facilitating organizations' effort in accomplishing their ultimate goals. Prerequisites: Instructor's approval

**BUS330 Organizational Communication/PR Management (3.0 Credit)**

The primary goal of this course is to advance students' understanding of the nature and role of public relations in contemporary society. This course takes a theoretical approach in examining important issues related to public relations, including issues management, crisis communication, media relations, public policy, and international public relations etc. The theoretical foundation you will establish through readings and class discussion will broaden your view of public relations and will enhance your critical thinking and integration ability when analyze PR problems or activities. By the end of the course, students should be able to understand and critique various viewpoints in current PR issues; apply theories to PR practice through case analyses; and write a research paper examining a public relations issue or case.

Prerequisites: BUS320 or instructor's approval

**BUS340A Internship - I (2.0 Credits)**

The course provides the students the opportunities to develop on-site job skills. Student will be exposed to the internship, and participate in real-world business activities. Internship reports by employer and student are required. Students are allowed to enroll in one internship course each semester. At most three internship courses are allowed within a program of study.

Prerequisites: Advance approval from the internship coordinator.

**BUS340B Internship - II (2.0 Credits)**

The course is the second internship course in Business series. Student must take BUS340A before enrolling in this course. Only one internship course each semester and three internship courses are allowed within a program of study.

Prerequisites: Advance approval from the internship coordinator.

**BUS520 Quantitative Methods for Business (3.0 Credits)**

The focus of the course will be dedicated to quantitative methods of management science and operations research, using quantitative analysis software for management problems. The instructor will introduce the modern business decision-making methodology and develop student's ability to analyze complex systems. The students learn how to format models from real-world problems so they can be solved using computer techniques, how to check for errors in problem formulation and data input to minimize erroneous solutions,

and how to apply the techniques to real-world problems  
Prerequisites: graduate standing or instructor's consent

**CS360 Computer Fundamentals (4.0 Credits)**

This is an introductory computer literacy course introducing the students to the basics of computer hardware structure, the World Wide Web, and MS Windows software tools. Topics include introduction to computer components, input/output, data storage, the Internet and the WWW, operating systems, data management and databases, software program development and programming languages, and ethics for technical professionals. Students also learn to use the latest Microsoft Office tools Word, Excel, Access, Powerpoint, MS Visual Basic, and the use of the Internet and browsers. Hands-on exercises are required.

Prerequisite: instructor's consent

**CS 407 Professional Development (2.0 Credits)**

This course instructs the student to develop his/her professional career. Topics cover personality assessment, professional ethics, understanding the business professional world, recognizing company culture and organizational structure, career stages and paths, resume preparation, and interview techniques and business report/proposal writing.

Prerequisite: Placement by English exam or successful completion of advanced English as Second Language classes.

**CS 414 Program Design and Analysis in C (4.0 Credits)**

This course is designed to teach C language syntax rules and the analysis of a structured programming language, with emphasis on practical applications in engineering and business problems. Methods of testing and debugging well-structured programs in C are also covered. Topics include problem specification and analysis, writing-editing-compiling-linking a C program, data types, operators and expressions, selection and repetition, arrays, pointers, functions, text files, dynamic memory allocation, strings, structures and unions, binary files, and bitwise manipulation and preprocessor directives. Hands-on exercises are required and the weekly lab session is an integral part of this course.

Prerequisite: CS360

**CS 440 Introduction to Unix/Linux (4.0 Credits)**

This course is designed to familiarize the students with the UNIX/Linux environment. Topics include concepts of the UNIX/Linux operating system, Shell commands, Visual editor, file manipulation and securities, UNIX utility commands, Shell features and environment, online manual, controlling user processes and managing jobs, introduction of Regular Expression and its usage with grep, sed, and awk UNIX power utilities, basic Shell programming techniques, large file management, and the user programming environment customization. Hands-on exercises are required.

Prerequisite: CS360 or instructor's consent

**CS 460 Data Structure (4.0 Credits)**

The topic of this course includes introduction to algorithms and data organization, arrays, stacks, queues, single and double linked lists, trees, graphs, internal sorting, hashing, and heap structures. The course is designed to teach efficient use of data structures and algorithms to solve problems. Students study the logical relationship between data structures associated with a problem and the physical representation. Hands-on exercises are required.

Prerequisite: CS414 or instructor's consent

**CS 470 Object-Oriented Programming in C++ (3.0Credits)**

This course is designed to develop the students' abilities to design, code, and document application programs using object-oriented design and analysis concepts and methodology. Emphasis is on establishment of design objectives, criteria and specifications, processes of synthesis, analysis, construction, testing, and evaluation of open-ended problems. Topics include an introduction to general object-oriented programming as implemented in C++, data types, expression, statements, functions, program scope, run-time memory allocation, function overloading, template functions, class mechanism, derivation, inheritance, and migration from C to C++. Labs may accompany lectures in partial class meetings during the semester. Hands-on exercises are required.

Prerequisite: CS460 or instructor's consent

**CS 490 Introduction to Operating Systems (3.0 Credits)**

This course is designed to introduce students to basic concepts of modern operating systems; topics include processes, threads, microkernel, concurrency, memory management, file system. Hands on exercises are required.

Prerequisite: CS360 & CS460 or EE206 or instructor's approval

**CS 511 Computer Architecture (3.0 Credits)**

This course focuses on the techniques of quantitative analysis and evaluation of modern computing systems, such as the selection of appropriate benchmarks to reveal and compare the performance of alternative design choices in system design. The emphasis is on the major component subsystems of high performance computers: Pipelining, instruction level parallelism, memory hierarchies, input/output, and network-oriented interconnections. Students will undertake a major computing system analysis and design project of their own choosing.

Prerequisite: Instructor's Consent

**CS 527 Database Design (3.0 Credits)**

This is the first of a series designed to teach relational database concepts, design, and applications. Topics include database architecture, relational model, structured query language (SQL), data manipulation (DML), data definition language (DDL), database design, ER modeling, database normalization, demoralization, and physical database design. Popular database systems, such as Oracle and Microsoft SQL server, are used for hands-on exercises and projects.

Prerequisite: CS414 or Instructor's Consent

**CS 530 Computer Networks (3.0 Credits)**

This course is designed to give students a global picture of computer networks. Topics include network layered models (OSI, TCP/IP), data communication basics, circuit switching, packet switching, routing and internetworking. Hands-on exercises are required.

Prerequisite: CS490 or instructor's consent

**CS540 Java Programming and Internet Applications (3.0 Credits)**

This course introduces students to the Java language, programming with object-oriented construct, GUI design and graphics programming and core Java libraries. Students will learn Java language basics such as syntax and classes, inheritance, interfaces, reflection, graphics programming, event handling, user-interface components with Swing, Java applets, exception handling, stream, and files. Hands-on exercises are required.

Prerequisite: CS470 or instructor's consent

**CS 542 Software Engineering (3.0 Credits)**

This course is designed to demonstrate the engineering approach to the development of large, high-quality software projects. Topics include software life cycle, development process, requirement specifications, design and testing techniques, verification and validation, and software management. Students learn to use project management tools, principles, and environment to facilitate development of software programs/systems. Hands-on exercises and projects are required.

Prerequisite: CS470 or instructor's consent

**CS 543 Advanced Computer Networks (3.0 Credits)**

This is the sequel to CS520, Computer Networks, and is designed for an in-depth study of computer networks. Emphasis is on modern Internet technologies and implementations. Topics include a review of computer networks, OS reference model, a study of emerging Ethernet technologies (Fast, Gigabit), client and server implementation with socket programming, local and wide area networks, TCP/IP, routing, network protocol and architecture, Internet protocol, and IP addressing. Projects are required.

Prerequisite: CS530 or instructor's consent

**CS 546 Operating System Design (3.0 Credits)**

This course offers graduate students an in-depth understanding and hands-on experience in modern operating system design and implementation. Topics include process, memory, file system, I/O, deadlocks, case studies of operating system implementations, modern distributed and network system architectures, communication and synchronization in distributed systems, threads and processor allocation, scheduling in distributed operating systems, distributed file systems, and case studies of modern distributed operating system design. Projects are required

Prerequisite: CS490 or instructor's consent

**CS 550 Unix/Linux System Programming (3.0 Credits)**

This course is designed for students to gain fundamental knowledge of and hands on experience with programming in unix/linux environment. students will learn to program in c with unix/linux system calls and other advanced topics such as unix file system, process control, signals and inter process communications. upon completion of this course, students should be able to develop real world unix/linux applications.

Prerequisite: CS440 or instructor's consent

**CS 555 Unix/Linux Network Programming (3.0 Credits)**

This course is designed for graduate students to gain hands on experience in unix/linux programming. The students will learn to develop unix/linux network applications using a number of unix/linux network programming interface techniques including sockets, XTI ,RPC. Topics include: an overview of transport layer, TCP sockets, UDP sockets, threads and client server design, XTI, RPC and Streams.

Prerequisite: CS440 or instructor's consent

**CS 560 Net Web Programming (3.0 Credits)**

This course provides students with the knowledge and skills needed to develop dynamic web-based applications using ASP.NET and gain an understanding of the new architecture behind ASP.NET. Topics include creating ASP.NET pages, creating Web custom controls and Web user controls, using validation controls and composite controls, using ADO.NET to access data from various data sources, configuring and securing a Web application, state management, error

handling and debugging, and migrating existing web applications to ASP.NET.  
Prerequisite: CS470 or instructor's consent

**CS 567 Net Windows Programming (3.0 Credits)**

The goal of this course is to provide students with the knowledge and skills they need to develop C# applications and components for the Microsoft .NET Platform, including Visual C#.NET Windows application development with Windows Forms and controls; user interfaces and navigation; error handling and debugging; data binding; consuming and manipulating data; components and .NET assemblies; Windows services; Remote; testing and debugging; application deployment and configuration. Hands-on practice is required.

Prerequisite: CS470 or instructor's consent

**CS 570 Algorithms (3.0 Credits)**

This course provides an in-depth analysis and efficient use of algorithms to solve problems. Well-structured programs are studied; modular, top-down design is emphasized. Topics include the use of data structures techniques to design efficient algorithms and analyze their complexity, efficient implementation of combinatorial algorithms, sorting, searching, and geometric problems, and branch and bound algorithms.

Prerequisite: CS360 or instructor's consent

**CS 572 Advanced Java Programming (3.0 Credits)**

This course is designed to give the students an in-depth understanding of Java programming techniques. The course focuses on advanced Java language features and packages which are essential for building a variety of application architectures. Topics include Java techniques of WAP, XML, JNI, thread, network programming, Servlet, JSP, JDBC, and internalization. Upon completion of this course, the students should be well prepared to create enterprise-wide, Java-centric solutions to client/server problems involving Java and networks. Each technology topic will cover its uses, implementation, and language issues. Students are required to implement a project for each Java technique. Hands-on exercises are required.

Prerequisite: CS540 or instructor's consent

**CS 580 Database Administration (3.0Credits)**

This course provides an in-depth understanding of the Oracle Database Management System. Emphasis is on the latest Oracle database architecture, database configuration and administration. Topics include logical/physical database layout, database server processes, database creation, various database physical objects; client/server configuration, multi-threaded server configuration, database storage management, database security, database utilities, database monitoring, partitions, and database backup/recovery methods. Hands-on practices are required.

Prerequisite: CS527 or instructor's consent

**CS 587 Advanced Database Design and Development (3.0 Credits)**

This course is intended for graduate students to further explore database server development and database tuning. The course specifically details procedural extensions to SQL to develop stored procedures, functions, packages and database triggers. In addition, it covers database performance tuning from application development point of view by exploring query optimizer, database hints, and various database access methods. Hands-on exercises are required.

Prerequisite: CS527 or instructor's consent

**CS 588 Database and Internet Server Programming (3.0 Credits)**

This course introduces current client/server data access concepts on the Internet. It covers the fundamental concepts of the 3-tier model, Internet database access, and major tools and techniques utilized in application development. Topics include N-tier model, JDBC with database applications, Java Servlet, JSP and JavaBean, WML, and XML. Hands-on exercises are an integral part of the course.

Prerequisite: CS527 or instructor's consent

**CS 607 Master's Project (3.0 Credits)**

The course is designed to develop the creativity of graduate students in Computer Science through the exercise of the design effort on a self-selected project. The design project must be open-ended, whereas the design approach must employ the modern design techniques and methodologies in the related fields. Completion of the design project entails 1.) Formulation of a design problem statement including realistic constraints such as economic factors, safety, and reliability issues, 2.) Design specifications, 3.) Consideration of alternate solutions, 4.) Manufacturing procedures and 5.) Operation instructions. The research topic and proposal must be approved by the project advisor. The report format must be in accordance with CSBU's Project Style Guide and be approved by the advisor and tech writer. Upon completion of the project, the student is required to conduct an open-forum presentation of the project.

Prerequisite: instructor's consent

**CS 609A Master's Thesis-I (3.0 Credits)**

This is the first part of a 2-part master's thesis course designed for a graduate student in the Computer Science program who plans to pursue his/her research interests in depth. Each part requires one trimester's effort to complete half of the entire project work. In this first part, the advisor will assist the student to identify the research topic, shape research ideas, and to define the research objectives and scope. The student then performs the following: topic studies, identifying software and/or hardware requirements, defining the project objectives and procedures, writing a project proposal and submitting it to the administration after obtaining his/her advisor's approval, working on research and implementation of the project, and documenting findings. Regular meetings with the advisor are required.

Prerequisite: instructor's consent

**CS 609B Master's Thesis-II (3.0 Credits)**

This is a continuation of the first part of the master's thesis course. At the beginning of the semester, the student should draw a conclusion on the research and development work for the project and begin to write a thesis report following the required format. The student should make an analysis of the project work and results. Through this process, the student will gain in-depth knowledge of the selected subject and develop independent thinking and research capabilities. The report must be approved by the advisor and a tech writer. Upon completion of the project, the student is required to conduct an open-forum presentation of the project.

Prerequisite: instructor's consent

**CS 647 XML and Web Service Development (3.0 Credits)**

Markup language (XML) is rapidly becoming the standard information description language, and has been used in almost all areas related to computer and information technologies, such as Internet, semiconductor, bioinformatics, etc. Its usage will continuously grow. Web Services refer to the infrastructure that supports a rapidly emerging style for developing applications that rely on

the Internet and WWW for portions of their functionality.

Prerequisite: instructor's consent

**CS 688 Network Security in Wireless Systems (3.0 Credits)**

This is the third in the Network Security series. A secure network is the fundamental requirement for network communication. Network security issues have become ever more important for any organization with network systems. This class mainly addresses the security issue in accessing the network, including the security in wireless access. Many new proposals and technology have been developed in this field. The objectives of the class are to teach students the fundamentals in cryptography, the concept of security, and the practical use of virtual private networks (VPN). Topics include IPSec (IP Security), Web Security, VPN, and wireless network security. Some important RFCs will also be covered for the students to understand its development process in the network industry.

Prerequisite: CS543 or instructor's consent

**EE206 Digital Circuits and Laboratory (4.0 Credits)**

This course is a 3 hour lecture and 2 hour laboratory. It is designed to be the first of the digital circuit series. Students will be taught the fundamentals of digital electronics, and it includes hands-on experience with digital logic elements and testing and measuring equipment. Laboratory experiments will accompany the class topics.

Prerequisite: CS360 or instructor consent

**EE-340 Materials Engineering (4.0 Credits)**

This course covers atomic and crystal structures; imperfections; diffusion and relation between microstructure; the properties of engineering materials such as metals, polymers, ceramics and composites; phase equilibrium and transformations; mechanical, electrical, thermal, magnetic and optical properties; corrosion; and material degradation.

Prerequisite: Instructor's consent

**EE400 Circuit Theory-I (3.0 Credits)**

This course is the first of a 2-part series on the fundamentals of electrical circuits. Topics include analysis of circuits containing resistors, capacitors, inductors, and controlled sources; Kirchoff's Laws; simple resistive circuits; node-voltage method, mesh-current method; Thevenin's and Norton's theorems; operational amplifier and its applications; transient analysis of first and second order circuits, and SPICE simulation.

Prerequisite: instructor's consent

**EE420 Circuit Theory-II (3.0 Credits)**

This course is the second of a 2-part series on electrical circuits that covers advanced topics, including sinusoidal steady-state circuit analysis using phases, power calculations in AC circuits, balanced three-phase circuits, Laplace transform and its application in transient circuit analysis, frequency select circuits and filters, Fourier series and Fourier transforms, and two-port networks.

Prerequisite: EE 400 or instructor's consent

**EE431 Analog Circuits and Laboratory (4.0 Credits)**

It is a course of three hour lecture and two hour laboratory. It is the first of a series on the basis in analysis and design of analog circuits. Hands-on experimentation will accompany the course to demonstrate and verify the subjects covered and to assist understanding of the design techniques and

theories. Topics include a review of circuit analysis techniques, operational amplifier applications, and device models (BJT and CMOS). Laboratory experience includes work on transistor amplifiers with feedback, discrete components, differential amplifier, op-amps and their applications, active filters and oscillator, regulated power supplies, class AB power amplifiers, and AM and FM communications.

Prerequisite: EE400 or instructor's consent

**EE432 Analog Circuit Design (4.0 Credits)**

This course provides students with the opportunity to use the knowledge and experience acquired in previous circuit courses to further understand the design accept of analog circuits and conduct analysis and design of differential amplifiers, current mirrors, frequency response of electronic circuits, feedback circuit analysis, output stages, integrated circuits, filters and oscillators.

Prerequisite: EE420

**EE450 Logic Design (4.0 Credits)**

This course is intended to provide the students the opportunity to use the knowledge and experience acquired in previous digital circuit courses to further understand the design aspect of digital integrated circuits and devices. Hands-on design experience is provided in digital and logic circuits and their applications. The course focuses on various logic design techniques to design a variety of combinatorial and sequential circuits. Timing considerations are analyzed for asynchronous and synchronous circuit designs with emphasis on state machine design approaches. Students will be introduced to modern design techniques using HDL languages and concentration on verification of circuit designs. Simulation tools include Alters MAX + plus II, Xilinx various projects.

Prerequisite: EE206 or instructor's consent

**EE465 Signals and Systems (3.0 Credits)**

This course is an introduction to basic concepts and principles of signals and systems. Both analog and digital signal processing techniques will be covered. Topics include analog signals and systems, digital signals and systems, LTI systems, Fourier transform Z-transform, FFT, system stability, digital filter design, Network. Matlab software will be used to implement some of the DSP algorithms.

Prerequisite: Instructor's consent

**EE470 Digital Signal Processing (3.0 Credits)**

This course is a study of the concepts in deterministic and statistical techniques for describing, analyzing, and characterizing generic signals and their applications. Topics include signal processing, continuous and discrete Fourier analysis, and fundamentals of methods. Additional coverage includes the fundamentals of the algorithms and computational methods for digital FIR/IIR filter design and basic signal analysis techniques. Simulation exercises using Matlab / C Language are required.

Prerequisite: EE465 or instructor's consent

**EE481 Verilog HDL and Digital Design (3.0 Credits)**

This course develops the students' ability to design the basic building blocks of modern digital systems and provides them with a fundamental knowledge of the state-of-the-art design methodology, design considerations, and verification strategies for complicated digital hardware design. Topics include Verilog HDL basics, simulation, Synthesis of digital systems using Verilog HDL. The students practice using the tools for design projects on UNIX system or

Windows system. Mentor Modelsim for HDL Simulation, Cadence Verilog-XL, and Silo III Verilog Simulator from SimuCAD are available in the Labs. Hands-on practices are required.

Prerequisite: EE450 or instructor's consent

### **EE490 Applications of Operational Amplifier and Analog Integrated Circuits (3.0 Credits)**

This course emphasizes board level analog circuit analysis, design, and simulation. Topics include fundamentals of operational amplifier and its applications, active filters, stability of the feedback circuit, linear and switching regulator, and phase lock loop. Pspice and off-the-shelf analog IC are used by the students for circuit design and design verification. Hands-on practices and projects are required.

Prerequisite: EE432 or instructor's consent

### **EE511 Logic Synthesis (3.0 Credits)**

This course covers both the algorithmic aspect and the practical application aspect of logic synthesis. It is the second of the series for logic design implementation. The focus is on the use and applications of Verilog HDL in logic synthesis with high-technology industry EDA tools. The course intends to develop the students' abilities to execute large and complicated digital design using behavioral Verilog modeling and logic synthesis. Topics include Verilog HDL constructs for logic synthesis, resource sharing, Verilog HDL coding style for synthesis, special case handling, synthesizable Verilog HDL for commonly used logic building blocks, generic module generation, notation and basic concepts in logic synthesis, two-level logic optimization, Heuristic minimization of two level logic, binary decision diagram (BDD) and related topics, and multi-level synthesis. Cadence Verilog-XL, Mentor Leonardo for HDL Synthesis, and Synopsys Design Compiler are used for all assigned homework and projects.

Prerequisite: EE481 or instructor's consent

### **EE515 Microcomputer Structure and Programming (3.0 Credits)**

This course is designed for the students to learn microprocessor architecture and gain hands-on experience with at least one popular microprocessor. Topics include microprocessor architecture and development tools - using a popular microprocessor for case study, programming with ASM/C for exercises; instruction set, hardware feature, I/O and timer, interrupt, and a survey of other microprocessors. Hands-on experience in microcomputer programming and applications through laboratory projects is required.

Prerequisite: EE450 or CS414 or instructor's consent

### **EE520 Microcontroller Interfaces and Applications (3.0 Credits)**

This course is designed for students to get practice in microcontroller-based digital systems design with emphasis on interfacing and data processing. Topics include interfacing, A/D and D/A conversions, data acquisition, input devices, output devices, displays, and application firmware programming. This course is project heavy and students will complete projects, including documentation, prototyping, demonstrations of functionality, presentation, and implementation evaluation.

Prerequisite: EE450 or instructor's consent

### **EE521 Advanced Engineering Analysis (3.0 Credits)**

This course is designed to provide graduate students in Electrical Engineering with the mathematics background and modeling techniques needed to analyze

electronic circuits and other engineering systems used in contemporary engineering and technology. In addition, methods will be introduced to describe and analyze systems of importance in emerging technologies, e.g. nanotechnology. Analytical, numerical, and computational approaches will be used. The emphasis throughout this course will be on applications. Topics will include: probability, stochastic methods, Monte Carlo simulation, Laplace transform, Dirac delta function, Orthonormal functions, Fourier analysis, Z transform, partial differential equations, the importance of nanometer length scale, Schrodinger wave equation, quantum tunneling, and application of wave functions in nanotechnology.

Prerequisite: Instructors consent

#### **EE524 Advanced Computer Organization and Structure (3.0 Credits)**

This course is designed to further investigate modern computer design. Topics include an in-depth study of multiprocessor architecture and interconnection networks, pipeline, data flow, algorithm structures, memory system design, cache memory design, and a comparison of the performance and design among various computer architectures. Hands-on project experience is required

Prerequisite: EE515 or instructor's consent

#### **EE525 Digital IC Design (3.0 Credits)**

This is the first of the VLSI design series. The course begins with an introduction to state-of-the-art CMOS VLSI engineering with emphasis on the basic CMOS VLSI design principles and methodologies. Topics include basic MOSFET theories and characteristics, CMOS semiconductor fabrication processes, sub-micron design rules, combinational and sequential CMOS logic gate design styles, data path, interconnection, power and clock distribution, array and memory design. Widely used industry standard tools, such as Cadence's Opus, Composer, Virtuoso, Avant's HSPICE and Mentor's Calibre will be used for all homework assignments and design projects.

Prerequisite: Instructor's Consent or EE450

#### **EE536 Advanced Digital IC Design (3.0 Credits)**

This course is a continuation of the course EE515 and is designed to cultivate students' ability to design a Standard Cell Library, Data path and other special circuits that can be used as intellectual properties (IP) building blocks for ASIC, SOC (system on chip) and DSP (digital signal processing) applications. In addition to the design subject, students also learn how to generate different views of the circuits to facilitate system integration with various CAD tools for logic synthesis and physical implementations. Topics include standard cell design and characterization, technology mapping, design rules, layout, data path synthesis, memory compiler, IP development and architecture trade-off. Modern CAD tools such as Synopsys, OPUS, Composer, Virtuoso, HSPICE and Mentor's Calibre will be introduced and used for homework assignment and projects.

Prerequisite: EE525 or instructor's consent

#### **EE547 Analog/Mixed Signal IC Design (3.0 Credits)**

This course is designed to cultivate the student ability to design comes analog integrated circuits. Topics include review of opamp networks, frequency response to Linear integrated circuits, level sensing amplifiers, phase detectors, voltage controlled oscillators, charge pumping techniques, and A/D,D/A converters, HSPICE, are used for assigned homework and projects.

Prerequisite: EE536 or instructor's consent

**EE558 VLSI Physical Design-Place and Route (3.0 Credits)**

This course is the third in the VLDI Design series and it introduces ASIC place and route. The course introduces the students to state-of-the-art physical design automation tools and techniques. Topics include design flow, library review, tool graphical interface, floor planning, power planning, timing driven placement, static time analysis (STA), CT-Gen, special routing, final routing, and engineering change order (ECO), and run batch mode jobs. Hands-on exercises and projects are required.

Prerequisite: Senior standing or Instructor's Consent

**EE562 Application Specific Integrated Circuit Design (3.0Credits)**

This course is designed for students who intend to become logic designers using HDL based design methodologies. Topics include ASIC/CPLD/FPGA Library modeling, Cell characterization, static timing analysis, place and route algorithms design for testability, fault modeling, industry standard formats for design information interchange, and a survey of the most popular EDA tools. Industry grade design tools such as Synopsys Design Compiler, Cadence Verilog-XL, Synopsys Design Time (under dc\_shell), Synopsys Prime Time, Cadence Silicon Ensemble, Mentor Calibre LVS/DRC, and Synplicity Synplify are used for homework assignments and projects

Prerequisite: EE511 or instructor's consent

**EE565 High-Speed Digital System Design (3.0 Credits)**

This course offers the concepts of advanced technology in high-speed digital system design. It focuses on the issue of signal integrity which is most critical in such system design. Topics include an overview of digital system engineering, modeling and analysis of interconnections, circuit analysis, power distribution in high-speed systems, noise in high-speed digital systems, Buffering model, digital timing analysis, and design methodologies.

Prerequisite: EE420 or instructor's consent

**EE576 Power/Signal Integrity in Advanced IC Packaging and PCB Design (3.0 CREDITS)**

This course is an extension of the subjects covered in EE565. It covers the concepts of advanced Technology in high speed digital system design with emphasis on the applications of advanced PCB and high speed packaging design. The course objective is to develop the students' abilities to work on high speed PCB and packaging design.

Prerequisite: EE565 or instructor's consent

**EE581 Data Compression (3.0 Credits)**

This course surveys current image, data and voice compression standards and studies key components in image, data and voice compression. The course emphasizes minimum redundancy coding, Huffman coding, arithmetic coding, statistical modeling, dictionary-based compression, sliding window compression, LZ78 compression, speech compression, lossy graphics compression, JPEG, wavelet methods, and archiving package. Matlab programming will also be introduced.

Prerequisite: EE470 or instructor's consent

**EE585 Image Processing and Applications (3.0 Credits)**

This course offers the fundamentals of image processing. Besides introducing basic concepts and principles, the course takes a practical approach to emphasize various applications of digital image processing. Topics include image fundamentals, image transformations, image enhancement image restoration, information technology, data compression, image segmentation, image

presentation and pattern recognition and interpretation. Matlab software is employee for implementing numerous algorithms.  
Prerequisite: EE581 or instructor's consent

**EE590 Digital Signal Processor Design and Implementation (3.0 Credits)**

This course is designed to give advanced graduate students in engineering a thorough examination of all the design considerations of fixed-point (integer) digital signal processors as well as develop their abilities to design a general fixed-point digital signal processor. Topics include a review of general DSP algorithms (FIR, IIR, DFT, IDFT, DCT, IDCT, wavelet), processor architectures, address generation schemes, memory structures, instruction set definition and encoding, single and multiple instruction repetitions, and minimum and maximum searching. Students will design a 16-bit fixed-point digital signal processor which requires incorporation of all design considerations taught in this course.

Prerequisite: EE536 or instructor's consent

**EE595 Introduction to Nanotechnology (3.0 Credits)**

This course is a general introduction to nanotechnology, open to all graduate students. The course will begin with an overview of the field of nanotechnology. The following general areas of nanotechnology, illustrating the scope and depth of the field, will be introduced: electronics and systems, life sciences and medicine, materials and technologies, and business and ventures. Within these general areas, specific topics will be introduced, at a basic level, including: nano electronics, photonics, fabrication, and systems; biosensors, nanotechnology in health and medicine; imaging; nano materials and devices, energy technology and applications, environment and society, nanoscale characterization; business, investment, and intellectual property. Extensive use will be made of audio-visual presentations. The course will include class field trips to nanotechnology companies and research laboratories in the San Francisco Bay Area.

Prerequisite: A general knowledge of the sciences or engineering or business

**EE600 Electrons, Photos, and Nanotechnology (3.0Credits)**

Electrons and photons play a key role in nanotechnology. This course introduces the basics of the application of electrons and photons to nanotechnology. Topics include: Introduction and motivation. Why are electrons and photons so important in nanotechnology? The electron: basic electron properties, electrons as waves and their description and application. The photon: basic photon properties, particle and wave aspects. Hands-on computer simulation in nanotechnology, introduction to instruments and techniques, dedicated to the characterization and manipulation of nanostructures, exploiting the basic properties of electrons and/or photons. Electron interactions, application of electron properties in microscopes to study nano devices, application of electron spin property in function of nano devices, photon interactions. Using of photon properties in microscopes to study nano devices, including photon spin property. Combined use electrons and photons to study non-volatile memory devices, impacting on the storage device industry. The course will include class visits to nanotechnology companies, and to state-of-the-art nanotechnology centers at the national research laboratories and universities in the San Francisco Bay area.

Prerequisite: EE595 or instructor's consent

**EE607 Master's Project (2.0 Credits)**

This course is designed to develop the creativity of graduate students in Electrical Engineering. Students will design a project under the close supervision of a project advisor from the engineering faculty. The design project must be open-ended, and the design approach must employ modern design

techniques and methodologies. Completion of the design project entails: 1) Formulation of a design problem statement including realistic constraints such as economic factors, safety, and reliability issues, 2) Design specifications 3) Consideration of alternative solutions 4) Manufacturing procedures, and 5) Operation instructions. The research topic and proposal must be approved by the project advisor. Format of the report must be approved by the project advisor and tech writer. Upon completion of the project, the student is required to conduct an open-forum presentation of the project.

**EE609A Master's Thesis – I (2.0 Credits)**

This is the first part of a 2-part master's thesis course designed for a graduate student in the Electrical Engineering program who plans to pursue his/her research interests in depth. Each part requires one trimester's effort to complete half of the entire project work. In this first part, the advisor will assist the student to identify the research topic, shape research ideas, and define the research objectives and scope. The student then performs the following: topic studies, identifying software and/or hardware requirements, defining the project objectives and procedures, writing a project proposal and submitting it to the administration after obtaining his/her advisor's approval, working on research and implementation of the project, and documenting findings. Regular meetings with the advisor are required.

**EE609B Master's Thesis – II (2.0 Credits)**

This is a continuation of the first part of the master's thesis course. At the beginning of the semester, the student should draw a conclusion on the research and development work for the project and begin to write a thesis report following the required format. The student should make an analysis of the project work and results. Through this process, the student will gain in-depth knowledge of the selected subject and develop independent thinking and research capabilities. The report must be approved by the advisor and a tech writer. Upon completion of the project, the student is required to conduct an open-forum presentation of the project.

**EE624 Advanced VLSI Physical Design-Physical Synthesis and Low Power Design (3.0 Credits)**

This course is designed to further investigate ASIC front-to-back design automation. The course aims to develop the students' design ability in ASIC by using state-of-the-art EDA backend design tools and methodology (such as Cadence SE-PAK). It also introduces concepts in advanced industrial deep submicron backend design. Topics include library review, floor planning in SE, physical synthesis, CTPKS, timing closure, RC extraction, back annotated from back to front, non-default routing rule implementation, double-cut-via implementation for 0.13 $\mu$ m and below technology, shielding, and route. Hands-on practices are required.

Prerequisite: EE558 or instructor's consent

**EE691 Magnetoresistive Random Access Memory (3.0 Credits)**

This course is intended for advanced graduate students of electrical engineering. In this course the specific example of a leading candidate for next generation non-volatile memory MRAM storage cell devices. Topics will include multilayer magnetic nanostructures, exchange bias, ferromagnet and anti-ferromagnet materials, magnetic domains, magnetic thin films, ultra-fast manipulation of magnetization in the multilayer magnetic nanostructure by spin-polarized electron currents and magnetic circular dichroism techniques.

Prerequisite: instructor's consent.

**ENGL101 Expository Writing (3.0 Credits)**

This course focuses on basic concerns in writing, going from its processes to its forms, to the popular techniques writers have used to make their works outstanding. Students will learn to use grammar and punctuations correctly and to write effective essays in both academic and professional settings. It is a course of basic level of college writing and let students acquire knowledge and skills in written communication.

Prerequisite: instructor's consent

**ENGL102 Critical Thinking (3.0 Credits)**

Student will learn to understand the intent of a message, to justify the soundness of a statement, and to evaluate the validity of the evidence. Rigorous training will help learners go beyond feelings and personal biases to clear, impartial, and accurate problem solving and decision making that are essential to all human communication: speaking, writing, debating, and persuading.

Prerequisite: ENGL101 or instructor's consent

**ENGL110 English Speaking (3.0 Credits)**

The course is intended to teach student the skills in communication speaking, formal presentations, and listening. Students will learn about nonverbal communication, cultural differences in communication, and research methodology.

Prerequisite: Placement by exam or successful completion of advanced ESL classes or instructor's consent

**ENGL310 Academic Reading (3.0 Credits)**

The course seeks to build student's reading skills in a systemic and comprehensive way. Students will be trained to capture an essay's or a book's theses, follow its development, and recognize its arguments. Being equipped with advanced reading methods, and through exposure to materials from a wide range of subject areas, the student will be trained to become a total sponge of information.

Prerequisite: Placement by exam or successful completion of advanced ESL classes or instructor's consent

**ENGL351 Academic Writing (3.0 Credits)**

The course help students to understand what they read, observe, or create, by writing clear, effective, and powerful prose in essays, reports, white papers, analysis studies, and other documents and presentations. It focuses on subjects of cultural character that includes language, literature, philosophy, history, science, and other fundamental humanities subjects of different breadth and contents.

Prerequisite: ENGL101 or instructor's consent

**ENGL421 Intercultural Communication (3.0 Credits)**

Intercultural communication and relationship are the focuses in this course. Students will be guided to communicate in a diversified community.

Prerequisite: ENGL101 or ENGL110 or instructor's consent

**ENGL431 Team Communication (3.0 Credits)**

By on-site practice, students will accomplish communication skills with a formation of team rehearsal, with hands-on experiences working in a team, and will understand theories and principles of how to adapt in a team when a decision be made and a problem be solved.

Prerequisite: ENGL101 or ENGL110 or instructor's consent

**ESL 101 Pronunciation 4 units**

This course focuses on improving spoken English fluency and pronunciation through the practice of segmental sounds, common phonological reductions, and stress and intonation patterns. The purpose of the course is to teach students correct ways of pronunciation in order to enhance students' abilities in speaking English.

**ESL 102 Grammar I 4 units**

The objective of the course is to familiarize students with the basic structure of English grammar. Students will learn the accurate and appropriate language use through intensive written and oral practices.

**ESL 103 Listening Comprehension 4 units**

The course emphasizes listening comprehension. Students will learn practical vocabulary and basic sentence construction in order to get familiar with the English language. In addition, students will improve their listening apprehension through watching educational and TV programs as well as through TOEFL listening comprehension practices.

**ESL 104 Basic Vocabulary for Academic Purposes 4 units**

This particular basic ESL course is designed to give students basic skills needed for an effective transition into freshman-or-sophomore-level college course work, focusing on students' ability to develop a vocabulary for academic success.

**ESL 105 Basic Reading and Writing 4 units**

This particular basic ESL course is designed to give students basic skills needed for an effective transition into freshman-or-sophomore-level college course work, focusing on cultivating students' reading and writing abilities.

**ESL 201 General Reading 4 units**

Students in this course build up their reading skills through exposing to short stories and articles in a wide range of disciplines including arts and humanities, social sciences, natural sciences, life sciences, and engineering etc.

**ESL 202 Writing Composition 4 units**

At the beginning level, the writing class focuses on teaching students to write perfect sentences and paragraphs. Students will learn how to organize their ideas and present their thoughts in a logical and meaningful way.

Prerequisite: ESL102/ ESL105

**ESL 203 Conversation 4 units**

Students are encouraged to speak up and to have conversational talk with team members as well as the instructor in this course. The goal of the course is to reduce students' speech anxiety and to practice speaking with accurate pronunciation and sentence structures.

**ESL 204 Grammar II 4 units**

The course focuses on advanced English Language structure. Students will learn the grammatical functions of English words, phrases, clauses, and sentences at a more sophisticated level.

Prerequisite: ESL 102

**ESL 205 Listening Comprehension II 4 units**

In this course, students will learn to advance their listening comprehension by being exposed to movie or TV programs that reflect American culture in various

aspects including politics, economics, and society etc.  
Prerequisite: ESL 103

**ESL 301 Advanced Reading 4 units**

The class focuses on discussions and conversations about advanced readings including novels, current news, and other articles in various disciplines. Students are encouraged to explore profound meanings embedded in those readings and be able to reflect on it.  
Prerequisite: ESL 201

**ESL 302 Advanced Writing 4 units**

In the advanced writing class, students will work on intensive writings using a variety of topics. They will practice more complicated sentence structures, and learn how to write clearly, effectively, and with a good flow.  
Prerequisite: ESL 202

**ESL 303 Advanced Conversation 4 units**

The course is centered on developing rich conversational opportunities for students to enhance their speaking skills in order to reach fluency and accuracy. Topics may range from daily operations to academic settings.  
Prerequisite: ESL 203

**ESL 304 Grammar III 4 units**

Students in this course will learn modification, syntax structures of the English language by studying English and American literature.  
Prerequisite: ESL 204

**ESL 401 Introduction to American Culture 4 units**

The goal of the course is to familiarize students with American culture in order to help them adapt to a new environment smoothly. Students will be exposed to selected episodes of popular drama, talk shows, and news programs etc. They will discuss the cultural meanings underlying those presentations. It is expected that students will expand their knowledge of cultural idioms, phrases, and expressions as well as experience American classroom culture with a greater depth.  
Prerequisite: ESL 301

**ESL 402 Presentation Skills 4 units**

This course is aimed at strengthening students' oral presentation ability. Students will practice how to do a good power point presentation, how to give a speech, and how to effectively engage audiences.  
Prerequisite: ESL 303

**ESL 403 Introduction to Professional Writing 4 units**

In order to succeed in studying at USA, students need to learn how to write well in an academic context. The course emphasizes basic elements of academic writing, documentation, critical argumentation, and organization of research papers and projects.  
Prerequisite: ESL 302, 304

**ESL 404 Professional Speech & Presentation 4 units**

This advanced communications course for students of English is designed to give a solid foundation of speech and presentation skills in English, and to provide students with a safe and non-stressful forum to practice those skills. Students who have gathered a working grammatical competence will now be

challenged to apply those skills to communicative tasks focusing on functional usage, pronunciation, intercultural understanding, body language, idioms, interpersonal skills, and dialect sensitivity. Individual and group presentations will be a part of this course.

Prerequisites: ESL402

**FIN 410 Fundamentals of Finance (4.0 Credits)**

Students taking this course will be introduced to the world of finance. Financial management is a technique used by corporation managers to raise and allocate capital in a manner that will maximize revenue and stabilize the firm's future cash flows. This course examines the concepts and techniques available to financial managers as they address various aspects of the financing and investment. Topics include financial background, financial statements, a review of accounting, and taxes; cash flow and financial analysis, time value of money, the financial system and interest, the characteristics of bonds, the valuation and characteristics of stocks, capital budgeting, risk and return, and also international finance. A case study will be applied to assist students' learning. SAP R/3 may be introduced.

Prerequisite: Instructor's Consent

**FIN520 Financial Management (3.0 Credits)**

This class teaches students to apply the essentials of financial accounting to the practice of management. Students will understand the definition, behavior, concepts, and estimation of cost; and also about how cost accounting is applied in manufacturing and service organizations, the principles of planning and control for cost-related management, cash flow statements, capital budgeting, and how to analyze financial statements.

Prerequisite: FIN410 or Instructor's Consent

**FIN530 Investments (3.0 Credits)**

This course will cover the basis of investment and how to manage it. Students will be taught about theory and empirical evidence, related to market efficiency, portfolio theory, assess pricing models, factor models, and option pricing theory. Students are taught to combine market research results and electronic information sources to create investment strategies.

Prerequisite: FIN 520

**HU211 Introduction to Philosophy (4.0 Credits)**

This course gives student an introduction of philosophy, through using an historical approach. The class covers both Eastern and Western traditions from the pre-Socratic and Confucius to modern times.

Prerequisite: Instructor's Consent

**HU251 Watercolor Painting for Beginners (3.0 Credits)**

This course is to fulfill the students' interests of painting by giving them an idea how to express their creation and idea by watercolor on a paper. Students will be taught to form their idea by shapes, colors, borders, and a combination of shapes. In addition, a color mixing and knowledge of brush will be taught.

Prerequisite: Instructor's Consent

**HU306 Drawing (3.0 Credits)**

This course is to convey a foundation in fine art study. A basic skill of how pencil drawing works will be instructed. The skills includes: strokes, shapes, lighting, surface, texture, and other basic ones. Hands-on practice topics include plaster models, still life, landscapes, and figures.

Prerequisite: Instructor's Consent

**HU311 Western Watercolor (3.0 Credits)**

This course is to convey a foundation in fine art study. A basic skill of how pencil drawing works will be instructed. The skills includes: strokes, shapes, lighting, surface, texture, and other basic ones. Hands-on practice topics include plaster models, still life, landscapes, and figures.

Prerequisite: Instructor's Consent

**HU331 Fundamental Oil Painting (3.0 Credits)**

This course covers theories of oil paintings, including strokes, color mixing, texture, lighting, and other techniques. Hands-on practice topics include still life, floral, simple landscapes and figures.

Prerequisite: Instructor's Consent

**HU351 Art Appreciation (3.0 Credits)**

This course gives an introduction of western art appreciation, encompassing ancient art to post-modernism art background that makes comparisons to the East, as well as the tools to analyze paintings through their own cultural point of view

Prerequisite: Instructor's Consent

**HU361 Brush Painting (3.0 Credits)**

Students will be taught how to paint Chinese watercolor by Chinese brushes. It tells the basic skill of drawing and free style of brush painting.

Prerequisite: Instructor's Consent

**HU411 Introduction to Contemporary American Art and Culture (3.0 Credits)**

The course will demonstrate the visual art and the cultural change in America from 1950 to the present. The student will be taught to understand and learn how to appreciate modern American artists in a visual art work.

Prerequisite: Instructor's Consent

**HU426 Principles of Ethics (3.0 Credits)**

Student will be instructed to understand the principles of ethics and the issues applicable to their lives, including application of ethical principles, background and philosophical principles of ethics, ethical practices, and practical ethical problems and solutions.

Prerequisite: Instructor's Consent

**LAW420 Introduction to Business Law (4.0 Credits)**

This course introduces a general system of the U.S. business law. The course will address various potential legal regards to students during the operation of businesses. The course would teach student when and how to consult an attorney before taking legal action. The course will be initiated followed by an overview of the U.S. legal system, its fundamental structures, regulation and processes. We will focus on the performance of agencies, and will give a general introduction of some simple contract principles.

Prerequisite: Instructor's Consent

**LAW424 Business Entities (4.0 Credits)**

This course begins with a brief discussion of business risk. It then deals with agency principles and considers whether a business ought to be organized as a corporation, partnership, or other entity (such as LLC or LLP). The course next considers the formation process, capital structure, and limited liability before moving on to cover questions of internal governance. If time permits, we then

consider questions particularly relevant to large, publicly held corporations such as social responsibility, corporate accountability, and takeovers. This course does not involve the application of the federal securities laws. The topics are analyzed under common law principles, and the General Corporation Law of the State of Delaware.

Prerequisite: Instructor's Consent

**LAW510 Introduction to Intellectual Property Law (3.0 Credits)**

This survey course covers the basic statutes and doctrines undergirding the three major federal forms of intellectual property: trademarks and unfair competition, copyrights and patents. It also touches upon state law doctrines such as right of publicity, misappropriation, trade secrets, state trademark law and other forms of unfair competition. Relying on a combination of cases and problems, students will develop a familiarity with the foundational principles of intellectual property law and practice.

Prerequisite: Instructor's Consent

**LAW512 International Trade and Contract (4.0 Credits)**

A basic doctrine of international trade and an overview of WTO regulations will be given through comparative advantage and related corporate strategies, the impacts of emerging regional economic blocks, the institutions of the multilateral trading system, and trade barriers. Students will learn the mechanics of international payment, shipping, and distribution. This course also focuses on a new generation of model contracts. Student will be taught to find the model contracts and learn how to use them. Through this course, student will have an overview of know-how to help companies deal with the legal aspects of doing business internationally.

Prerequisite: LAW420 or Instructor's Consent

**LAW571 Modern Law of Corporation (3.0 Credits)**

Legal issues in promoting, formation, operation, and dissolution of corporations, partnerships, and sole proprietorships will be illustrated in this course

Prerequisite: LAW424 or Instructor's Consent

**MATH210 Calculus (4.0 Credits)**

This course gives basics in calculus designed for students to build up the fundamental background of calculus and to learn its applications to very basic problems. Topics include functions, limits, continuous functions, derivatives and applications, antiderivatives, composite functions and chain rule, graphing techniques using derivatives, implicit differentiation, finite integrals, and fundamental theorems of calculus.

Prerequisite: pre-calculus subjects.

**MATH211 Calculus (4.0 Credits)**

This course is intended for student who are interested in engineering majors. It covers practical engineering mathematics and the applications. It gives basics in differential equations, linear algebra, Fourier analysis, numerical methods, optimization, probability and random processes, discrete mathematics, and fuzzy logics.

Prerequisite: MATH 210 or instructor's consent.

**MATH212 Differential Equations and Linear Algebra (4.0 Credits)**

This course gives basics in calculus designed for students to build up the fundamental background of calculus and to learn its applications to very basic problems. Topics include basic differential equations, improper integrals, partial derivatives, series, sequence, integration techniques and their applications,

L'Hopital's rule, and inverse trigonometric functions and derivatives.  
Prerequisite: MATH 211 or instructor's consent.

**MATH 220 Statistics (4.0 Credits)**

This course is designed for students to understand the concepts, theory and applications of probability and statistics. Topics include permutation, combination, random variables, distribution, means and variance, normal distribution, random sampling, estimation, confidence interval, hypothesis testing, linear correlation and regression.

Prerequisite: pre-calculus subjects or instructor's consent

**MBA608 Master's Project (3.0 Credits)**

This course is designed to develop student's research abilities. The student or project group will conduct the project under the close supervision of a project advisor. The research and development approach must employ up-to-date information and methodologies. Students are required to: 1.) Make decisions on the subject and formulation of the objective, 2.) Plan the research and development procedures and practical approach, 3.) Set a time table and operation instructions, and generate a proposal, 4.) Carry out their plan 5.) Exam and write a report regarding the results at the end. The project topic and proposal must be approved by the project advisor. The format of the report must be in accordance with CSBU's project style guide and be approved by the advisor and tech writer.

Prerequisite: Advisor's approval

**MBA609A Master's Thesis - I (3.0 Credits)**

This is the first part of a 2-part master's thesis course designed for students in the Business Administration program who plans to pursue his/her research interests on a deeper level. Each part requires one trimester to complete half of the entire project work. In this first part, the advisor will assist the student in identifying the research topic, shaping research ideas, and defining the research objectives and scope. The student then performs the following: topic studies, defining the project objectives and procedures, writing a project proposal and submitting it to the administration after obtaining his/her advisor's approval, working on research and implementation of the project, and documenting findings. Students are required to meet with the advisor regularly.

Prerequisite: Advanced graduate standing

**MBA609B Master's Thesis - II (3.0 Credits)**

This is the second part of the master's thesis course. At the beginning of the semester, the student should draw a conclusion on the research and development work for the project and begin to write a thesis report. The student should make and analyze the project work and results. This way, the student will gain in depth knowledge of the selected subject and develop independent thinking and research capabilities. The report must be approved by the advisor and a tech writer. Upon completion of the project, the student is required to conduct an open-forum presentation of the project.

Prerequisite: MBA609A

**MBA 610 Case and independent study (3.0 Credits)**

Independent studies tailors to student special interest in business administration under the direction of an instructor who is knowledgeable in the field. It may consist of reading, homework, tests, projects or presentations determined the instructor.

**MGT320 Principles of Management (4.0 Credits)**

Students who take this course will learn the foundations and basic skills of management. Specifically, students learn organizational structure and environment, and develop skills in setting objectives in planning, leading, organizing, decision-making, controlling and motivating, communication and negotiating, and managing information for decision making. SAP R/3 may be introduced as demo software.

Prerequisite: instructor's Consent

**MGT461 Organizational Behavior and Management (3.0 Credits)**

Students who take this course will explore the complex dimension of organizational behavior including examination of experiential and conceptual approaches to communication, self-awareness, motivation, perception and problem solving. Students explore interpersonal and intrapersonal aspects to learn about the management of change, theories in leadership and organizational issues. Students will participate in real case projects.

Prerequisite: MGT 320 or Instructor's Consent

**MGT491 Entrepreneurship and Venture Business (3.0 Credits)**

This course teaches students the full range of the entrepreneurial process including the evaluation, development, and creation of a successful business. It will help the potential entrepreneurs and professionals visualize and experience entrepreneurial development. The course explores the entrepreneurial approach to resources such as the development of an organizational structure, financing entrepreneurial ventures, market analysis, and screening venture opportunities. Individuals will experiment and evaluate what it takes to be an entrepreneur including developing the plan for a new business.

Prerequisite: Senior standing and MGT 461 or Instructor's Consent

**MGT511 Human Resources Management (3.0 Credits)**

This course provides students and practicing managers with a comprehensive overview of essential personnel management concepts and techniques. The focus is on essential topics such as job analysis, candidate screening, interviewing, testing, hiring, evaluating, training, motivating, promoting, compensating and their associated legal constraints. Additional topics covered include global HR, diversity awareness and training, and sexual harassment legal requirements. Practical applications such as how to appraise performance and benefits and handle grievances are explored. Additionally, developing independent work teams that foster creativity and innovation will be discussed

Prerequisite: MGT461 or Instructor's Consent

**MGT516 Production and Operations Management (3.0 Credits)**

This course is designed to teach students basic theories about production and operations management. Emphases will be on planning, organizing, controlling, and balancing quantitative aspects and behavioral applications in production/operations management; operations strategy will be the guide for topical integration. The students will learn about basic management processes, resource conversions, and behavioral applications within production/operations. Specific topics include operations management, operations strategies for competitive advantage, forecasting in operations, facility and layout planning, product and process design choices, scheduling, inventory control and quality control. The PP, MM, and QM modules of SAP R/3 will be used as demo software.

Prerequisite: Senior standing or Instructor's Consent

**MGT520 Project and Risk Management (3.0 Credits)**

This course is designed for students who are interested in pursuing the project management area of study. Students will be introduced to the principles of project and program management, followed by the roles of project management, matrix organization and project management techniques, leading students to the efficiently execute and complete projects. Students will also learn how to identify and analyze project risks, and how to reduce or eliminate risk-related factors. These techniques are useful in project proposal development. Methods for ongoing risk assessment and project performance evaluation are included. SAP R/3 may be utilized for hands-on experience.

Prerequisite: MGT 461 or Instructor's Consent

**MGT 521 Organizational Behavior (3.0 Credits)**

This course focuses on the challenges of managing complex systems. We will explore the leadership and motivational skills relevant to performing as an effective manager, and discuss the different roles associated with managing the individual, the unit, the organization, and the larger system.

Prerequisite: Advanced graduate standing or Instructor's Consent

**MGT525 Supply Chain Management for E-Business (3.0 Credits)**

Students taking this course will learn about applying evolving methods in integrating the process of product distribution and supply chain management using electronic business skills. This course will teach students specific methods that will allow them to profitably and efficiently fulfill customer demand through the Internet.

Prerequisite: MGT516

**MGT540 Managing for Quality Improvement (3.0 Credits)**

This course introduces the principles of quality management to students in the context of organizational and cultural change dedicated to the continuous improvement of products and services. The course will focus on quality control and quality assurance in project execution and ongoing operation environment. Students will learn about quality planning and quality management through hands on practice, including quality plan development and execution, quality management processes and implementation. Many quality management techniques and methodologies will be introduced during the course, and students will be lectured about ISO 9000 and other quality standards.

Prerequisite: MGT461 or Instructor's Consent

**MGT550 International Business Management (3.0 Credits)**

This class teaches students to review the classic five functions of management: planning, organizing, staffing, leading, and controlling. Students will compare managerial practices of many countries. The class will also cover the importance of quality and continuous improvement for gaining a competitive edge. Students will learn practical aspects of management from actual case studies, the strategic considerations for management in the international environment, and the roles of the latest information technologies, including computer networks, decision support systems, telecommuting, and CAD, CAM, CAE.

Prerequisite: Advanced graduate standing or Instructor's Consent

**MGT552 Technology Product Management and Marketing(3.0 Credits)**

This course is designed to give students a practical experience in product development, and focuses on the management of engineering and technology activities. Topics include technology product design, planning, production, marketing, sales, and maintenance; technological product life cycle from research and development through new product introduction, marketing

requirement documentation (MRD), product positioning, channel inventory management, outbound communications, and the organizational role of the product marketing manager. Case study and project presentations are required. Prerequisite: Advanced graduate standing or instructor's consent.

**MGT611 Strategic Management (3.0 Credits)**

This is an advanced-level case study course that integrates the technical skills and concepts of accounting, finance, marketing management, statistics, and computer applications among others. The course first covers the concepts and techniques of strategic management, followed by case studies. Topics cover an overview of the strategic management process, the three strategy-making tasks, industry and competitive analyses, evaluating company resources and competitive capabilities, strategy and competitive advantages, matching strategy to a company's situation, evaluating the strategies of diversified companies, implementing strategy, and case studies.

Prerequisites: Advanced graduate standing or instructor's consent.

**MGT613 Manpower Planning (3.0 Credits)**

This course begins with the discussion of the need for manpower planning and gives samples of plans developed for various types of organizations such as manufacturing, high-tech, small business, etc. This course would give students an opportunity to learn about and develop a manpower plan which is part of the Business Plan and also an ongoing dynamic document developed as a part of the Strategic Planning component of the organization. It also has to do with scheduling, rosters and succession planning which is a process of identifying a long-term plan for the orderly replacement of key employees. The course also explores cases of developing a manpower plan including developing a Gap Analysis to determine manpower needs and budgeting for the manpower needs. Developing new HR manpower configurations such as self-managed teams, telecommuting, outsourcing, temps-to-hire and other methods to make companies more flexible and offer economical solutions to the high cost of knowledge workers. The course includes case studies and actual writing of several manpower plans for various sizes of organizations.

Prerequisite: MGT511

**MKT320 Principles of Marketing (3.0 Credits)**

This course introduces the major principles of marketing, marketing's role within the company and in the global economy. Studies will focus on how to find marketing opportunities with market segmentation, how to get information for marketing decisions, the elements of product planning and new product development, wholesalers and retailers and their strategies, pricing, and promotion.

**MKT460 Marketing Management (3.0 Credits)**

This course studies marketing management by analyzing real-world cases. Students will learn to implement and execute the marketing process through situation assessment, strategy formulation, marketing planning, marketing implementation and evaluation.

Prerequisite: MKT320 or instructor's approval

**MKT 514 Marketing (3.0 Credits)**

This course introduces students to the marketing strategies and tactics that provide competitive opportunities for healthcare organizations. The course

focuses on the marketing elements of price, place, product and promotion, concepts that are the basis of constructing and implementing a marketing strategy. Other topics include market research, product strategy, new technology and MD's, branding, multi-cultural marketing and promotional decisions, including crisis communications. The class work includes cases, theory and an independent project.

Prerequisite: Advanced graduate standing or Instructor's Consent.

**MKT 550 E-Commerce Marketing (3.0 Credits)**

This course instructs students achieving the goals of know-how to facilitate a rewarding e-commerce solution and gives students an overview about the e-commerce market operation. The course requires student to adapt the principles and rules of marketing applicable to an e-commerce market and learn how to maintain an achieving result of e-marketing objectives.

Prerequisite: MKT320 or instructor's approval

**MKT 551 Strategies Marketing (3.0 Credits)**

This course teaches students fundamental concepts and practices in marketing research and data analysis, and use of the data and financial analysis to set strategic positioning strategies. Students will learn both the primary source (such as surveys) as well as secondary sources (Internet, publications, etc.) in research techniques and engage to their own marketing research projects. . Emphasis will be on practical marketing research skills of development and basic analysis mechanism leading to strategic marketing. Although statistical analysis will be covered in the course, quantitative analysis skills will be the main focus. The course also supports an overview of quantitative and qualitative tools for strategic marketing, market segmentation process, strategic positioning, and channel marketing issues. Case studies and marketing requirements reports are required.

Prerequisite: MKT460 or instructor's approval

**MKT552 International Marketing (3.0 Credits)**

This course considers how culture and environment of different countries affect marketing strategy, how to perform a comprehensive analysis of a country to support marketing plan formulation, the strategic implications of different market groups around the world, and special insights on international marketing from a study of special cases.

Prerequisite: **MKT460** or instructor's consent.

**MKT555 International Trade and Operations (3.0 Credits)**

The course is designed to develop the knowledge and understanding of the global marketing environment and of the concepts, tools, and theory that will prepare the students to take the responsibility for successful global market penetration for his/her business organization. The perspective of the course is managerial, i.e., the ability to identify opportunity, resolve problems, and implement solutions and programs.

Prerequisite: Graduate standing or instructor's consent.

**MSGE 501 Introduction to Solar Energy Technologies (3.0 Credits)**

The course covers the advancement, capacity growth, and use of renewable energy sources. Modern interest in renewable energy development is linked to concerns about exhaustion of fossil fuels and environmental, social and political risks of extensive use of fossil fuels and nuclear energy. It is a form of energy development with a focus on renewable energy.

Prerequisite: Graduate standing or instructor's consent.

**MSGE 502 Principles of Electric Circuits and Electrical Power System (3.0 Credits)**

The course covers electric circuits design methods, electrical laws, network simulation, linearization around operating point. Emphasis in subjects of alternating current, balancing network, digital circuit, circuit theory, impedance, load, mathematical methods in electronics network analyzer, schematic, series and parallel circuits, as well as power transmission grid system.

Prerequisite: Graduate standing or instructor's consent.

**MSGE 503 Physics of Solar Cells (3.0 Credits)**

Main chapters include interaction of light with matter, energy bands in solids, doping in silicon, the p-n junction, photoexcitation at p-n junction, illuminated p-n junction, the energy source, the efficiency limit, PV fundamental, and Si solar cell fabrication.

Prerequisite: Graduate standing or instructor's consent.

**MSGE 504 Photovoltaic Technology Development, Measurement & Characterization (3.0 Credits)**

The course covers the topics of electronic materials and devices, cell and module measurements technologies, tools, and analytical microscopy, electro-optical characterization, and surface analysis. Crystalline silicon research, high-performance PV, and thin film PV technologies.

Prerequisite: Graduate standing or instructor's consent.

**MSGE 505 Solar Power System: Design, Analysis & Installation (3.0 Credits)**

The course covers the topics of island or standalone system, hybrid system, grid-connected & grid-tied system, grid connected inverters, connection to a DC grid, small-scale PV solar systems, small scale DIY solar systems, mounting systems, trackers, system performance and optimization, as well as standardization.

Prerequisite: Graduate standing or instructor's consent.

**MSGE 506 Photovoltaic Manufacturing & R&D (3.0 Credits)**

The course covers the topics of current manufacturing procedures, deposition plant for the production of solar cells, substrate washing machine, back reflector machine, amorphous silicon alloy deposition machine, transparent conductor deposition machine, module assembly plant, potential improvements in manufacturing processes, ECD's multiple-band-gap, multiple-junction technology for stable high efficiency solar cells, ECD's microwave plasma assisted CVD technology for high rate deposition of amorphous silicon, optical enhancement, high quality doped layers, high quality intrinsic layer, device design, device current matching, as well as technical approach and time/cost estimate.

Prerequisite: Graduate standing or instructor's consent.

**MSGE 601 High-Performance Photovoltaic (3.0 Credits)**

Discussed technologies are thin-film multi-junction cells, multi-junction concentrators, future-generation and Novel high-efficiency concepts, amorphous silicon, cadmium telluride, and copper indium diselenide. The course also includes emerging concepts, such as nano-sized —quantum dots || , as well as promise breakthroughs in PV efficiency and affordability which aim to double the sunlight-to-electricity conversion efficiency of PV devices while dramatically cutting the cost of solar energy.

Prerequisite: Graduate standing or instructor's consent.

**MSGE 602 Thin Film Photovoltaics (3.0 Credits)**

Thin-film technologies are also being developed as a means of substantially reducing the cost of photovoltaic systems. The rationale for this is that thin-film modules are expected to be cheaper to manufacture owing to their reduced material costs, energy costs, handling costs and capital costs. Thin-film technologies covered in this course are high precision thin film deposition on large substrates, thin-film deposition in Chemical Bath Deposition method, physical vapor deposition (PVD), thermal evaporation, electron beam deposition, cathodic arc deposition, chemical vapor deposition, spin coating, and metallo-organic decomposition.

Prerequisite: Graduate standing or instructor's consent.

**MSGE 603 Solar Thermal Technologies (3.0 Credits)**

Topics are parabolic troughs technology, power towers, and dish/engine systems, hybrid solar lighting, solar water heaters, as well as solar thermal power cost and development issues.

Prerequisite: Graduate standing or instructor's consent.

**MSGE 604 Solar Cell Electronic Materials & Devices (3.0 Credits)**

The course of Electronic Materials and Devices studies semiconductor materials, device properties, and fabrication processes to improve the efficiency, stability, and cost of photovoltaic solar energy conversion. Our goal can be characterized three ways: 1) addressing current problems; 2) explore specific techniques and processes to develop and transfer technology improvements that industry will soon need; and 3) create new technologies and lead the development of the knowledge base and tools for the future of PV.

Prerequisite: Graduate standing or instructor's consent.

**MSGE 605 Energy Economics, Management & Policy (3.0 Credits)**

The course covers the following subjects: Energy Introduction, Energy and the Environment, Energy Demand, Energy Trading and Price Formation, Energy Taxation, The Oil Market and Business, OPEC, Oil Supplies and Prices, The Electricity Markets and Business, The Company Structure and Analysis, Environmental Economics, Restructuring of Energy Industries, and Energy - Economic Modeling and policy Analysis.

Prerequisite: Graduate standing or instructor's consent.

**PHYS210 Physics-I (4.0 Credits)**

This course is designed for 3 hour lecture and 2 hour laboratory. It covers the basic theory in physics for engineering students, including vectors, motion and Newton's laws, gravitation, work and energy, momentum, mechanics of rigid bodies, oscillations, kinetic theory of gases, and thermodynamics. Laboratory practices are conducted formally each week.

Prerequisite: MATH211 or instructor's consent

**PHYS211 Physics-II (4.0 Credits)**

This course is designed for 3 hour lecture and 2 hour laboratory. It covers the secondary level theory in physics for engineering students, including Coulomb's law and electric fields, currents and DC circuits, magnetic fields, time-varying EM fields, AC circuits, waves and sound, optics, interference, and diffraction. Laboratory practices are conducted formally each week.

Prerequisite: PHYS210 or instructor's consent

## **6. FACILITIES**

### **Instructional Facilities**

California South Bay University is located in Sunnyvale, a city based in Silicon Valley in bay area in California. The University is in the center of business and technology of the world. The University is 40 minutes away from San Francisco Downtown, the financial center of the world, and it is 10 minutes away from San Jose, the technology center of the world. The University embraces a very convenient transportation, and it is close to highways 101 and 237, conveniently accessible via Mathilda Boulevard. Many high-tech companies are around the campus, such as Google, Yahoo, Intel, Microsoft, and Cisco.

The school consists of classrooms, administrative offices, laboratories, libraries, student activity centers, cafeterias, computer centers, kitchens and restrooms. All the facilities on campus have teaching equipment sufficient to meet educational needs. Abundant parking lots are available for students use outside of the campus with free parking anytime.

### **Teaching and Research**

CSBU's teaching, research, and laboratory facilities are equipped with state-of-the-art hardware and software tools. In keeping pace with the advancement of information technology, CSBU's IT Department provides a modern digital campus environment to the faculty, students, and administrative staff.

Based on the hardware and software requirements for each course, the classroom is set up accordingly at the beginning of each semester. A group of classrooms are equipped with computer systems and Internet facility for the students to use. Modern design, simulation, and testing tools are installed based on class requirements.

### **University Library Resources**

CSBU has always sought to increase the vast reference support and library resources made available to CSBU students, particularly our Master Degree students who need the most up to date research data, most commonly found in expensive subscription-based computer databases. CSBU has its own independent library, which contains thousands of books and a lot of useful information for students. In addition, the Sunnyvale City library is just 3 minutes away.

All CSBU students access privileges include: obtaining a library card; checking out books, CD's, DVD's and other materials; utilizing the new e-library; complete support from the university librarian; telephone reference support during library hours; support for multi-lingual students (including students who speaking Mandarin, Cantonese, Korean or Japanese); and full wireless access with their laptops within the library, and/or DSL direct connection services for those without a wireless card to store legally downloadable research data obtained from the library.

### **Computer Laboratory**

Computer facilities include IC Layout Design Lab and EDA Lab, Networking and Software Testing Lab with full wireless Internet connections. The labs are open from 10:00 PM to 6:00 PM Monday through Friday, and limited hours on

Saturday and Sunday. Please check with the Registrar for current access hours during each particular term. The use of computers at CSBU is an integral element of all programs. All students are highly encouraged to purchase and bring in their own laptop computers. Students are required to purchase and bring in their own digital-production-quality laptop.

Specific software programs for courses teaching circuit design and software design and applications are installed on computers in various classrooms and laboratories. Software licensing agreements are observed. Designated learning laboratories for the students to conduct after-class hands-on practice are available to the students daily. Practices focus on the following:

- VLSI/SOC design
- DSP/ Multimedia and interface design
- ASIC/FPGA design
- Embedded system design
- Computer networking, systems administration, and network security
- Database administration and database design
- Nanosystem design
- Bioinformatics and bioengineering design and analysis
- E-business, business logic design, and digital system development and implementation

In addition, we have VLSI/SOC Design Lab. This laboratory is a dedicated facility to support learning and research projects in the area of VLSI/SOC design and implementations. In this lab a SPARC server is loaded with industry-standard CAE/CAD tools for state-of-the-art sub-micron VLSI/SOC design and implementation. These tools are HSPICE simulators, Synopsys design compilers, the entire Cadence EDA tools suite, Mentor Graphics design tools, and etc.

### **Electronics and Physics Lab**

The Electronics laboratory provides hands-on training accompanying digital and analog circuit classes. Students will practice fundamental engineering and physics related skills needed for future course work and research projects in digital/analog design, simulation, and analysis. The physical lab assistance sets up the lab weekly for the students use.

### **Accounting and Auditing Tools**

Many accounting software programs and auditing software programs are set up in a group of computers for the students to gain hands-on experience with the tools.

### **Audio/Visual Aids for American Language Learning**

Audio/visual materials for improving American language skills are available for all CSBU students who wish to improve their communication skills. Students may use the selected audio and videotapes and software programs and workstations to improve English programs and workstations to improve English pronunciation, grammar, spelling, conversation, and etc. Scheduled communication workshops and related activities conducted by English language instructors provide additional assistance to the interested students.

## **Training and Workshops**

Student Services of CSBU provides scheduled training activities and workshops to the students on job affairs, job placement, further education training, seminars in different programs.

## **Audio and Video Tape**

The University provides recording of lectures, video of lectures, seminar, training programs for students use.

## **Computer Networks**

There are a variety of high-performance computers on campus to support teaching and learning, including high-capacity servers, advanced workstations, and modern PCs. Wireless computers as well as high-speed Internet access are provided to the students on campus. The campus networks have a node on the Internet, allowing faculty and student access to electronic mail, file transfer, and the World Wide Web.



## **7. STUDENT ACTIVITIES AND SERVICES**

### **University Orientation**

All new students are **required** to attend the new student orientation workshop offered before the beginning of each semester. On the Orientation Day, orientation packages are distributed to the new students; all administrative staff members and representatives from the faculty and the student body welcome the new students; both presentations and hands-on workshops are conducted to inform and to connect. The new students are informed of the staff's duties in order to receive proper administrative services, the facility and learning resources information to prepare them for classes, and important policies to stay focused on their academic objectives. Hands-on workshops may also be conducted to teach the new students how to use the university computer networks system, how to properly set up their accounts for printing services, how to access the CSBU Online Service Center to obtain online learning resources as well as make online requests for services, and how to access the university library online system to find library collection information. New students who have not registered in classes also receive academic advising and register for classes on the same day. International students are also provided a health insurance plan and information on particular regulations they must observe in compliance with the Federal regulations for international students. Those required to take an English placement test but could not take it on an earlier scheduled dates may take it on the orientation day before they can register in classes.

All CSBU students are welcome to attend the orientation to welcome the new students and receive current university information.

### **Academic Advisement**

Each student is assigned an academic advisor, who will on a regular basis give academic advice regarding the student's progress.

### **Student Health, Safety, and Housing**

All full-time students are required to have their own medical insurance coverage. CSBU will assist them in contacting appropriate insurance companies. The University does not provide on-campus housing for students. However, students should not have difficulty finding accommodations near campus. Average monthly rent of a single room ranges from \$500-\$800.

### **Student Governance**

The CSBU Student Association offers students the opportunity to participate in the governing of the institution. Elected officers interact regularly with assigned faculty advisors to coordinate student functions, organize extra-curricular activities, and offer student input concerning university policy.

### **Student Organizations and Alumni Association**

Students at CSBU are free to organize and to join associations whose stated purpose is consistent with the University's mission. All student organizations seeking CSBU support must be registered. The CSBU Alumni Association is operated under the Student Service Office of the University, keeping a current list of all alumni, and conducting alumni activities on a regular basis such as class reunions and career counseling.

### **Academic Achievement Recognition**

Faculty and student awards are given annually during commencement ceremonies to recognize the outstanding achievements of faculty, staff, and students.

### **Tutorial Program**

A tutorial program will provide international students with assistance in English studies in addition to CSBU's regular tutorial classes for academic courses conducted by our teaching faculty and teaching assistants.

### **Student Tuition Recovery Fund**

The Student Tuition Recovery Fund (STRF) was established by the Legislature to protect any California Resident who attends a private postsecondary institution from losing money if the student prepaid tuition and suffered a financial loss as a result of the school: closing; failing to live up to its enrollment agreement; or, refusing to pay a court judgment.

To be eligible, the student must be a "California resident" and reside in California at the time the enrollment is signed or when the student receives lessons at a California mailing address from an approved institution offering correspondence instruction. A student temporarily residing in California for the sole purpose of pursuing an education, specifically one holding a student visa, is not considered a "California resident."

To qualify for STRF reimbursement you must file a STRF application within one year of receiving notice from the council that the school is closed. If you do not receive notice from the council you have four years from the date of closure to file a STRF application. If a judgment is obtained you must file a STRF application within 2 years of the final judgment.

It is important that you keep copies of the enrollment agreement, financial aid papers, receipts or any other information that documents the monies paid to the school. Questions regarding the STRF may be directed to: Bureau for Private Post-Secondary Education, 1625 North Market Blvd., Sacramento, CA 95834

### **Sexual Assault**

An allegation of sexual assault must promptly be reported to the Director of Student Services who will, in turn, report the allegation to the Police Department. The University will not attempt to adjudicate allegations of felonious acts.

### **Career Placement Services**

As a key component of Student Services, career placement services help the students in the following areas: (1) Prepare resumes and sharpen interview skills, (2) Conduct career seminars and job fairs, (3) Identify the students' strengths and interests and provide career advice, (4) Provide internship opportunities to the students (5) Provide library materials and an online tool (via the CSBU online Service Center) for the students to gain access to various sources of job information. The Career Center in the library provides the students with access to a collection of books, articles, magazines, brochures, and videotapes about employment opportunities. The students may also use the computer facility in the Career Center for job search. Employment information can be found on the online job posting board through the e-Career Center in the CSBU Online Service Center.

The service provides career planning and job search assistance prior to and after

students' graduation.

All students are encouraged to begin working with a Student Services counselor on their resumes and career development plans in the early stages of their academic study.



## **UNIVERSITY OFFICERS**

**Ms. Ling Li, M.B.A.**

*President*

**Dr. Mike Ming Mao**

*Vice President/ Director of Operational Affairs*

**Dr. Oliver Yu**

*Vice President/ Director of Academic Affairs*

**Mr. San-Ming Ngai**

*Director of Finance Department*

**Dr. Cynthia Wan**

*Dean of Business School*

**Dr. Dan Teng**

*Dean of Green Energy School*

**Mr. Jerry Fu**

*Dean of Engineering School*

**Dr. Leo Pan**

*Advisor of Computer Science Program*

**Dr. Yi Zhang**

*Advisor of Electronic Engineering Program*

**Dr. Ziqiang Qiu**

*Advisor of Green Energy Program*

**Mr. Weiwei Ruan**

*Advisor of MBA Program*

**Ms. Sangeeta Shabadi**

*Admission Officer*

**Ms. Kimula M. Dowell**

*Admission Officer*

**Ms. Stella Ning-Tang**

*Attorney at Law/ Public Relations Officer*

**Mr. Jerry Y. Zhou**

*Student Service Officer*

**Ms. Junjun Zhang**

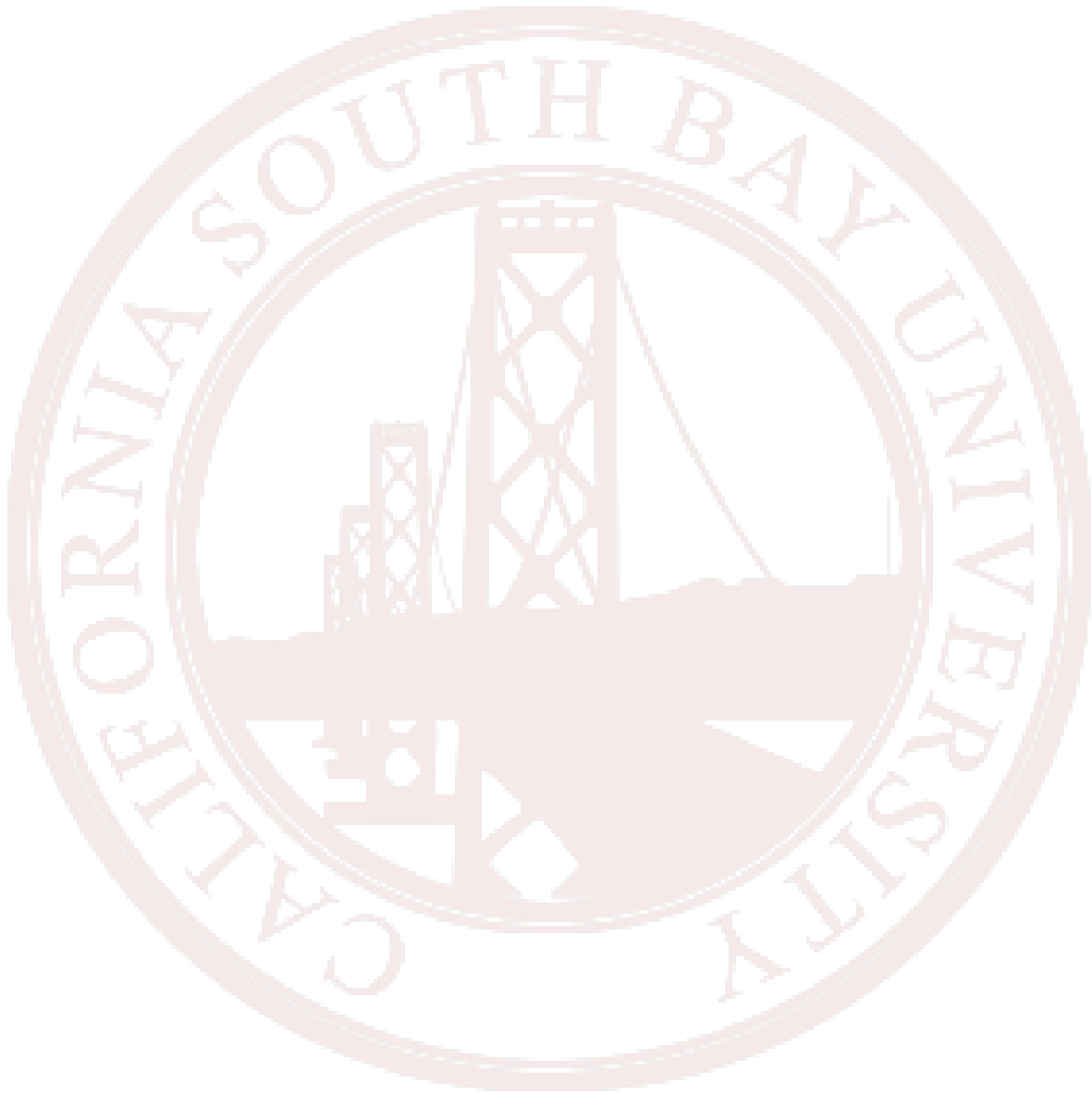
*Register/ Record Officer*

**Ms. Ice Jian**  
*Office Development*

**Mr. Zheng Yan**  
*IT Support Officer*

**Mr. Veno Arura**  
*Library and Lab Officer*

**Ms. Alice Ye**  
*Accountant*



## **FACULTY**

### **Dr. Robert A. Roos**

- Juris Doctor, Loyola University of Los Angeles, Los Angeles, CA
- Doctor of Social Welfare, University of California, Los Angeles, CA
- Bachelor of Science Business Administration, University of California, Los Angeles, CA

### **Dr. Ping Mao**

- Ph.D of Computer Science, University of Texas, Dallas, TX
- Master of Science, Computer Science, University of Texas, Dallas, TX
- Master of Physics, Wuhan University, Wuhan, China.

### **Dr. Leo Pan**

- Ph.D of Computer Science Engineering, Stanford University, Palo Alto, CA
- Master of Science, Computer Science, University of Science and Technology, China.

### **Ms. Kimula M. Dowell**

- Master of Clinical Psychology, San Francisco State University, CA, USA

### **Dr. Samuel Tong**

- Attorney at Law, Member of State Bar of California
- Juris Doctor, School of Law, Santa Clara University, Santa Clara, U.S.A.
- Master of Law, Taxation at School of Law, Golden Gate University, CA
- M.B.A., Santa Clara University
- Bachelor of Law, National Taiwan University

### **Dr. William Jiang**

- Ph. D. of Phil. Columbia University, New York, USA
- Master of Art/ Master of Science, University of Illinois, USA

### **Dr. Oliver Yu**

- Ph.D of Management Science & Engineering, Stanford University, USA
- Master of Science in Statistics, Stanford University, USA
- Bachelor of Electrical Engineering, National Taiwan University, Taiwan

### **Dr. Frank Bautista**

- Doctor of Medicine, Francisco Q. Duque Medical Foundation, Phils
- Bachelor of Science in Biology, Saint Louis University, Phils

### **Dr. Dan Teng**

- Ph.D of Semiconductor Physics, University of Notre Dame, USA
- Master of Physics, Tsinghua University, China
- Bachelor of Physics, Tsinghua University, China

### **Dr. Chang Q Jiang**

- Ph. D. of Systems Science, City University of London, UK
- Master of Engineering in Systems Engineering, Tianjin University, Tianjin, China
- Bachelor of Electrical Engineering, Tianjin University, Tianjin, China

**Mr. Gary Mercuri**

- Master of Business Administration, Finance, Notre Dame De Namur University, Belmont, CA
- Bachelor of Environmental Studies, San Jose State University, San Jose, CA

**Mr. Sean O'Grady**

- Bachelor of International Studies, University of California, Irvine, CA, USA
- TESOL/TEFL certified, Interlingua, Rome, Italy

**Dr. Shougang Wang**

- Ph.D of Physical Chemistry, Brown University, Providence, RI
- Master of Science, Physical Chemistry, the Chinese Academy of Science, China.
- Bachelor of Chemistry, Tsinghua University, China.

**Ms. Yun Ma**

- Fine Art Department, Jiaotong University, Shanghai, China

**Dr. Naibo Yang**

- Ph.D of Ion channel Physiology/Neurobiology, Thomas Jefferson University, USA
- Master of Biomedical Engineering & Instrument, Tianjin Univeristy, China
- Bachelor of Biomedical Engineering & Instrument, Tianjin University, China

**Mr. Jian Guo Yu**

- Master of Science, Computer Science, San Jose State University, San Jose, CA
- Bachelor of Computer Science, Shandong University, China.

**Mr. Jin Chen**

- Master of Science, Computer Science, Stanford University, Palo Alto, CA
- Bachelor of Computer Science, Huazhong University of Science and Technology, China.

**Ms. Frank Gong**

- Master of English Language and Literature, Heilongjiang University, China
- Bachelor of English Education, Harbin Normal University, China

**Dr. Yadong Wang**

- Ph.D of Electrical and Computer Engineering, University of Rhode Island, Kingston, RI
- Master of Electrical Engineering, Nanjing University of Aeronautics and Astronautics, China.
- Bachelor of Zoology Electrical Engineering, Nanjing University of Aeronautics and Astronautics, China.

**Dr. Chang Q Jiang**

- Ph. D. of Systems Science, City University of London, UK
- Master of Engineering in Systems Engineering, Tianjin University, Tianjin, China
- Bachelor of Electrical Engineering, Tianjin University, Tianjin, China

**Mr. Jerry Fu**

- Certificate Program of VLSI Design Engineering, University of California, Santa Cruz, CA, USA
- Master of Electrical Engineering, Rensselaer Polytechnic Institute, NY, USA

- Master of Electrical Engineering, Tsinghua University, Beijing, China
- Bachelor of Electrical Engineering, Xi'an Jiaotong University, China

**Dr. John (Xiong) Liu**

- Ph.D of Electrical Engineering, University of California, Los Angeles, CA, USA
- Master of Electrical Engineering, University of California, Los Angeles, CA, USA
- Bachelor of Electrical Engineering, Fudan University, Shanghai, China

**Ms. Judy Yuan**

- Master of Regional Studies, Harvard University, MI, USA
- Bachelors of Regional Studies, BeiJing Normal University, Beijing, China

**Mr. Hua-Ke Lin**

- Master of Engineering Management, Santa Clara University, CA, USA
- Master of Computer Science, Northwestern Polytechnic University, CA, USA
- Bachelor of Business Administration, TamKang University, Taiwan

**Mr. Jonathan Lee**

- Master of Accounting, University of Scranton, Pennsylvania, USA
- Bachelor of International Business, Fu-Jen Catholic University, Taiwan

**Dr. Ming (Mike) Mao**

- Ph.D of Biotechnology, Stanford University, CA, USA
- Ph.D of Biotechnology, Tong-Ji Medical University, Microbiology and Immunology, China
- Master of Microbiology and Immunology, Tong-Ji Medical University, China
- Medical Doctor of Medicine, Tong-Ji Medical University, China

**Ms. Sara Shueh**

- Master of Business Administration, University of Louisville, KY, USA
- Bachelor of Business, University of Missouri-Columbia, MO, USA

**Dr. Michael C Sugarman**

- Ph.D of Neuroscience, Molecular Biology, University of California, Irvine, CA, USA
- Master of Neuroscience, Molecular Biology, University of California, Irvine, CA, USA
- Bachelor of Biology/Psychology, Union College, Schenectady, New York, USA

**Dr. Razia Askaryar Iqbal**

- Doctorate in Psychology, California School of Professional Psychology, San Francisco, CA
- Master of Arts in Clinical Psychology, California School of Professional Psychology, San Francisco, CA
- Bachelor of Arts in Psychology, California State University, Hayward, CA

**Ms. Yu Wang**

- Bachelor of Fine Art at Liaoning Education Academic, China

**Dr. Yi Zhang**

- Ph.D of Electrical Engineering, University of California Santa Clara, CA, USA
- Master of Electrical Engineering, University of California Santa Cruz, CA, USA

- Bachelor of Optical Engineering, Zhejiang University, China

**Ms. Stella Ning-Tang**

- Attorney at Law, Member of State Bar of New York
- Master of Law, Seattle University School of Law, Seattle, USA
- Bachelor of Law, East China University of Political Science and Law, China

**Mr. Eugene Wang**

- Master of Computer Science, Santa Clara University, CA, USA
- Bachelor of Electrical Engineering, UC Berkeley, CA, USA

**Ms. Xiujuan Ji**

- Bachelor of Fine Art at Luxun Art University of China

**Dr. Jie Xue**

- Ph.D of Material Science, Cornell University, NY, USA
- Master of Chemical Engineering, Syracuse University, NY, USA
- Bachelor of Chemistry, Tsinghua University, China

**Ms. Ice Hui Chuan Chien**

- M.B.A. in Project Analysis, Northwestern Polytechnic University, CA
- Bachelor of Science, Chung Hua University, China

**Dr. Ziqiang Qiu**

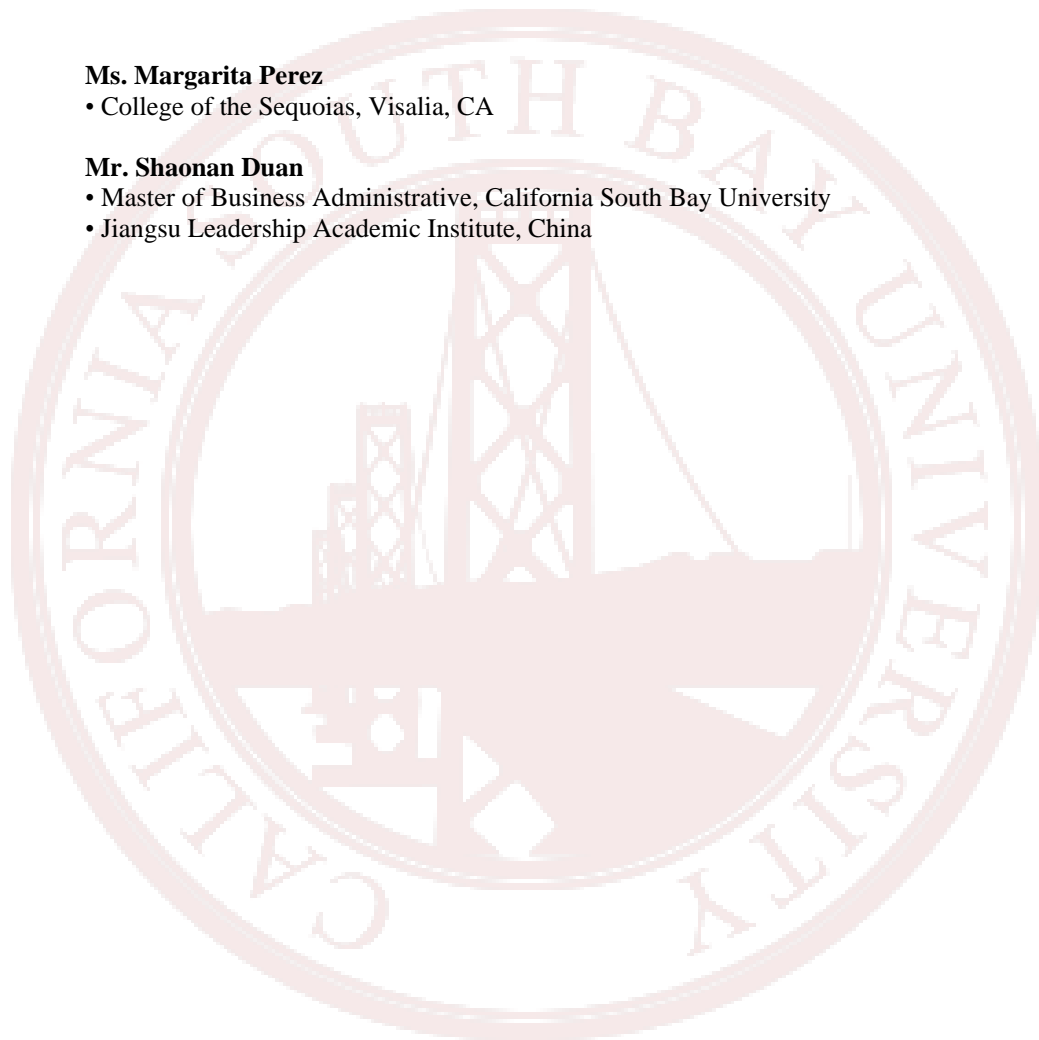
- Ph.D of Solid-State Physics, Johns Hopkins University, MD, USA
- Bachelor of Physics, Beijing University, China

**Ms. Margarita Perez**

- College of the Sequoias, Visalia, CA

**Mr. Shaonan Duan**

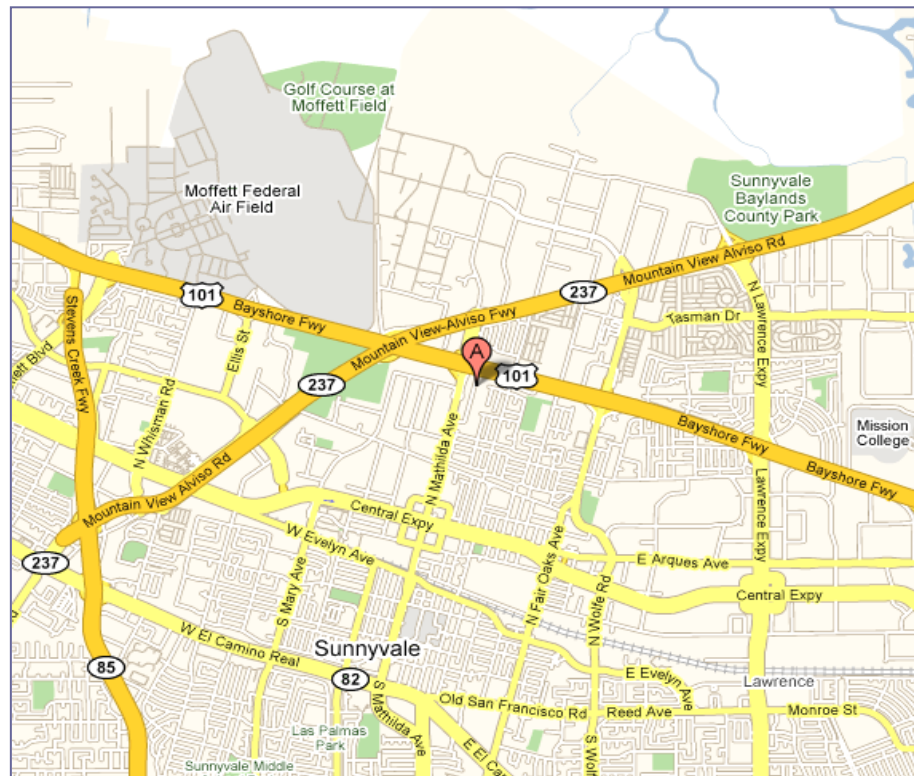
- Master of Business Administrative, California South Bay University
- Jiangsu Leadership Academic Institute, China



## **DIRECTION**

**University Address:**

**762 San Aleso Ave.  
Sunnyvale, CA 94085  
Tel: (408) 400-9008 (Admission)  
Fax: (888) 225-1868**



### **Coming from US-101**

- 1. Exit onto Mathilda Ave towards south bound to Sunnyvale.**
- 2. Turn left at San Aleso Ave.**

### **Coming from CA-237**

- 1. Take the exit onto CA-237 W toward Mountain View;**
- 2. Take exit 3B towards Sunnyvale**
- 3. Take left at San Aleso Ave.**