FIRST YEAR STUDENT INFORMATION
COMPUTER ENGINEERING MAJOR
2009-2010

Computer Engineering focuses on the design, analysis, and application of computers and on their applications as components of systems. The Department currently offers B.S., B.S./M.S., and Ph.D. degrees in computer engineering, as well as two minors. To learn more about the Computer Engineering major go to:

http://www.ce.ucsc.edu/academics/undergraduate/curriculum

NEW STUDENT ORIENTATION

Students begin college with a wide variety of backgrounds and levels in science and math. During this orientation, you will be able to take placement exams, receive help on choosing classes, and learn to access the many services and resources available**.** This is an opportunity to meet with faculty and staff that will assist you with your academic goals. Please go to **http://admissions.ucsc.edu/orientation09/** to get more information.

If you are unable to attend summer orientation make sure to come to
Fall Orientation: September 22, 2009 10:30 - 12:30, Engineering Lecture, 101

ENROLLMENT FOR FALL QUARTER

Computer Engineering has many course requirements that must be taken sequentially. Whether you are an admitted or a proposed Computer Engineering major, we strongly recommend you begin the major fall quarter of your first year. Here are some suggestions:

(Strongly recommended that you take all major requirements for letter grades)

First-year students are required to take the appropriate college core course fall quarter:

5 units **College Core Course**

Due to math course sequence requirements, you must begin them fall quarter:

5 units **Mathematics – MATH 19A, Calculus, or AMS 3, Pre-calculus for Science and Engineering**

For your third course, begin the programming sequence, or take a general education course:

7 units **Computer Engineering – CMPE 12 and CMPE 12L, Computer Systems & Assembly Lang.**
(Programming experience required)

OR 5 units **Computer Engineering – CMPE 8, Intro to Autonomous Systems**
(No programming experience required. This course is not required for the major.)

OR 7 units **Computer Science – CMPS 12A and CMPS 12L, Intro to Programming & Lab**
(Prereq. for CMPS 12A is math placement into Math 19A and programming exp. recommended)

OR 5 units **General Education Elective**
(Not usually the best choice. Be sure to take CMPE 1 if you choose a Gen Ed Elective.)

During your first year, preferably fall or winter, plan to take:

2 units **Computer Engineering – CMPE 1, Hands-On Computer Engineering**
This course is an introduction to computer hardware and software and is not required for the major.

For fall quarter, you should enroll in your core course, a math course, a third course depending on your background, and possibly CMPE 1. CMPE 12 introduces computer engineering and embedded system programming. You need programming experience prior to taking the course. If you have completed a high school programming course you will need a permission number in order to enroll (contact the SoE Undergraduate Affairs office for information on how to obtain a permission number). CMPE 8 has no prerequisites beyond high school algebra, and will introduce you to programming and robotics. CMPS 12A has a prerequisite of math placement into MATH 19A, and although an introductory programming course, it is often best taken after some programming experience. You may also wish to begin more gradually by taking a general education course in fall as you acclimate to University courses. Computer Engineering requires one specific Topical

course (CMPE 80E: Engineering Ethics) and one specific Writing-Intensive course (CMPE185: Technical Writing), so you will fulfill the science T or humanities T, and the W, with these courses sometime during your undergraduate career.

MATH PLACEMENT EXAM

You will need to take the math placement exam unless you have been awarded advance placement credit. The purpose of this exam is to establish at what class level you should begin in this subject. You will need to take this exam before you can enroll in MATH 19A, AMS 3, or CMPS 12A. **Do not enroll in MATH 11A - take AMS 3 if you do not place into MATH 19A.** See **http://www.math.ucsc.edu/placement/index.html** for a study guide and information on dates, times and locations for the exams.

ADVANCED PLACEMENT & INTERNATIONAL BACCALAUREATE EXAMS

Transfer units are gained at the University in accordance with scores earned on College Board Advanced Placement (AP) and for International Baccalaureate Higher Level (IBH) exams. However, not all exam scores qualify for credit toward Computer Engineering major requirements, even if university units have been granted. In order to obtain "course credit", you must provide appropriate "score" verification to the School of Engineering Undergraduate Student Affairs Office. The following AP and IBH scores are accepted for course credit in lieu of SoE major requirements:

Advanced Placement & International Baccalaureate Exams	SCORE	UCSC COURSE CREDIT
AP Computer Science Exam A	4 or 5	CMPS 12A, Introduction to Programming**
AP Computer Science Exam AB	4 or 5	CMPS 12A, Introduction to Programming **&** CMPS 12B, Introduction to Data Structures**
IBH Computer Science	5	CMPS 12A, Introduction to Programming**
IBH Computer Science	6 or 7	CMPS 12A, Introduction to Programming & CMPS 12B, Introduction to Data Structures**
AP Mathematics Calculus Exam AB	3	AMS 3 or MATH 3
AP Mathematics Calculus Exam AB	4 or 5	MATH 19A, Calculus
AP Mathematics Calculus Exam BC	3	Enrollment in MATH 19A is recommended
AP Mathematics Calculus Exam BC	4 or 5	MATH 19A & 19B, Calculus
AP Chemistry Exam	5	CHEM 1A, General Chemistry

**Includes credit for associated labs

SAMPLE PLANS

These sample plans are intended to help students plan their first two years by providing a framework that you can adapt to your own interest and special needs. Please note: For students who are trying to decide between the CE and EE majors we recommend taking EE 80T (offered only winter quarter) in addition to CMPE 12/L and CMPE 1.

To view the entire curriculum for this major go to: **http://www.soe.ucsc.edu/sites/default/files/cmpe0809.pdf**

COMPUTER ENGINEERING - Bachelor of Science

PLAN 1

	FALL	WINTER	SPRING
Year 1	CMPE 8 MATH 19A Core Course (C1) CMPE 1	CMPE 12/L MATH 19B Gen Ed (C2)	CMPE 13/L MATH 23A Gen Ed
Year 2	CMPE 16 PHYS 5A/L AMS 10	CMPE 100/L PHYS 5B/M AMS 20	CMPS 12B PHYS 5C/N CMPE 80E

PLAN 2

	FALL	WINTER	SPRING
Year 1	CMPE 8 AMS 3 Core Course (C1)	CMPE 12/L MATH 19A Gen Ed (C2) CMPE 1	CMPE 13/L MATH 19B Gen Ed
Year 2	CMPS 12B/M PHYS 5A/L AMS 10	CMPE 100/L CMPE 9 Gen Ed	AMS 20 PHYS 5C/N MATH 23A

SoE Undergraduate Affairs Office
225 Baskin Engineering Building
Open M-F 9:00-11:00am & 1:30-3:30pm
Express Drop-in Advising hours: M-F 1:30 - 3:30pm
(831) 459-5840 advising@soe.ucsc.edu
www.soe.ucsc.edu/advising/undergraduate