

FIRST YEAR STUDENT INFORMATION ELECTRICAL ENGINEERING MAJOR 2009-2010

Electrical Engineering is a very broad discipline; the program at UCSC emphasizes three general areas: electronics/optics; communications; and VLSI Design, micro-technology nanotechnology, and biomedical devices. The Department currently offers B.S., M.S., and Ph.D. degrees. To learn more about the Electrical Engineering major go to:

<http://www.ee.ucsc.edu/undergraduates/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

Electrical Engineering has many course requirements that must be taken sequentially. Whether you are an admitted or a proposed Electrical 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 in fall quarter:

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

For your third course, you should begin the physics sequence (if you are able to enroll in the required co-requisite).

If not you can take a computer programming or a general education course:

6 units Physics –PHYS 5A and PHYS 5L, Introduction to Physics I

(Co-requisite for Phys 5A is concurrent enrollment in 5L and Mathematics 19A)

OR 5 units Computer Engineering – CMPE 8, Intro to Autonomous Systems

(No programming experience required. This course is not required for the major.)

OR 5 units General Education Elective

For fall quarter, you should enroll in your core course, a math course, and a third course depending on your background. Physics 5A/L covers elementary mechanics. It is the first course in the physics series that is a prerequisite for several electrical engineering courses. Physics 5A/L is only offered in fall quarter. CMPE 8 has no prerequisites beyond high school algebra, and will introduce you to programming, robotics, and engineering problem solving. You may also wish to begin more gradually by taking a general education course in fall as you acclimate to University courses.

Electrical Engineering requires two specific Topical courses (CMPE 80E: Engineering Ethics, and EE 80T Modern Electronic Technology) and one specific Writing-Intensive course (CMPE 185: Technical Writing), so you will fulfill three general education requirements (2 topicals and the W), with these major 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. You are encouraged to take the placement exam as soon as possible, so that, if necessary, you can take pre-calculus during summer and start your physics courses in the fall quarter.

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 Electrical 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. We recommend taking EE 80T (offered only winter quarter) during the first year.

To view the entire curriculum for this major go to: <http://www.soe.ucsc.edu/sites/default/files/ee0809.pdf>

ELECTRICAL ENGINEERING - Bachelor of Science

PLAN 1

	FALL	WINTER	SPRING
Year 1	MATH 19A PHYS 5A/L Core Course (C1)	MATH 19B PHYS 5B/M EE 80T	MATH 23A PHYS 5C/N Gen Ed (C2)
Year 2	AMS 10 PHYS 5D (2 units) CMPE 12/L	AMS 20 EE 101/L CMPE 16	MATH 23B CMPE 100/L CMPE 13/L

PLAN 2

	FALL	WINTER	SPRING
Year 1	AMS 3 CMPE 8 Core Course (C1)	MATH 19A CMPE 12/L EE 80T	MATH 19B CMPE 13/L Gen Ed (C2)
Year 2	CMPE 16 PHYS 5A/L AMS 10	AMS 20 PHYS 5B/M CMPE 100/L	AMS 20 PHYS 5C/N CMPE 80E

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