

FIRST YEAR STUDENT INFORMATION

BIOENGINEERING MAJOR

2009-2010

Bioengineering is a multidisciplinary program sponsored by the departments of Biomolecular Engineering, Computer Engineering, Electrical Engineering, and MCD Biology. The program has a common core and 3 concentrations: biomolecular (e.g., drug design, bioinformatics), bioelectronics (e.g., interfaces, bio-mems), and rehabilitation (e.g., hardware and software for individuals with special needs). To learn more about the Bioengineering major go to: <http://www.beng.soe.ucsc.edu>

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, 10:30am - 12:30pm, 101 Engineering Lecture**

ENROLLMENT FOR FALL QUARTER

(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

Based on math placement exam results, you must begin appropriate math course fall quarter:

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

Similarly, chemistry courses should begin in your first or second quarter:

5 units Chemistry 1A, General Chemistry

Fall quarter enrollment should include your core, math, and chemistry courses. This course schedule is also appropriate for biology, chemistry, and bioinformatics majors. The chemistry course often fills up; enroll in it at the soonest possible instant.

Within the bioengineering major requirements, you will satisfy 1 or 2 topical courses (your core course satisfying the third), the writing-intensive (W) course, both Introduction to the Discipline: Natural Sciences (IN), and the Quantitative (Q) course.

If you are considering the Biomolecular Concentration, take BME 5, Introduction to Biotechnology, in the first year. If you are considering the Rehabilitation concentration, or would like to take a major-related topical, take CMPE 80A in the first year (offered Winter or Spring, satisfies a topical). All bioengineering students should take BME 80G, Bioethics, in the first or second year (offered Fall). If you are interested in a career in health care, BIO 89, Clinical Health Care, which satisfies one Social Science (IS), is highly recommended.

Every proposed or declared student in the major must have a bioengineering faculty adviser, assigned by the Baskin School of Engineering Undergraduate Advising Office, and with that adviser must formulate a program of proposed course work that meets the major requirement.

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 Bioengineering 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	3	CMPS 5J
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

***Students who intend to apply to medical school may need to take CHEM 1A regardless of their AP exam score.

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. To view the entire curriculum for this major go to:

<http://www.so.e.ucsc.edu/sites/default/files/beng0809.pdf>

BIOENGINEERING - Bachelor of Science

PLAN 1 - Biomolecular Concentration

	FALL	WINTER	SPRING
Year 1	CHEM 1A MATH 19A Core Course (C1)	CHEM 1B/M MATH 19B CMPE 80A	CHEM 1C/N BME 5 Gen Ed (C2)
Year 2	CHEM 108A/L AMS 10 BME 80G	PHYS 6A/L BIOL 20A AMS 20	PHYS 6C/N BIOE 20B AMS 7/L

PLAN 2 - Rehabilitation Concentration

	FALL	WINTER	SPRING
Year 1	BME 80G AMS 3 Core Course (C1)	CMPE 80A MATH 19A CMPE 12/L	Gen Ed (C2) MATH 19B CMPE 13/L
Year 2	CHEM 1A PHYS 6A/L AMS 10	CHEM 1B/M CMPE 9 AMS 20	CHEM 1C/N PHYS 6C/N Gen Ed

PLAN 3 - Bioelectronics Concentration

	FALL	WINTER	SPRING
Year 1	Core Course (C1) MATH 19A PHYS 5A/L	CMPE 80A MATH 19B CMPE 9	gen ed (C2) AMS 10 PHYS 5C/N
Year 2	CHEM 1A CMPE 12/L BME 80G	CHEM 1B/M AMS 20 EE 101/L	CHEM 1C/N BIOL 20A gen ed

SoE Undergraduate Affairs Office
225 Baskin Engineering Building
Open M-F 9-11am & 1:30-3:30pm
Express Drop-in advising hours: M-F 1:30 - 3:30pm
www.so.e.ucsc.edu/advising/undergraduate

