Biological Engineering Major (BE) 
Roadmap

**Semester 1**
- MATH 1910
- BEE 1510 or CS 111X
- PHYS 1112
- BIOG 1500
- Intro Bio
- Freshman Writing Seminar

**Semester 2**
- MATH 1920
- PHYS 1112
- BEE 1200 or ENGRP
- CHEM 2070 or CHEM 2090

**Semester 3**
- MATH 2930
- PHYS 2213
- BEE 1200 or ENGRP
- CHEM 2070 or CHEM 2090

**Semester 4**
- MATH 2940
- PHYS 2213
- BEE 2210 or ENGRD
- CHEM 1570, 3530 or CHEM 3570

**Semester 5**
- MATH 2940
- BEE 2210 or ENGRD
- CHEM 1570, 3530 or CHEM 3570
- Upper Level BIO

**Semester 6**
- BEE 3310 or CEE 3310
- BEE 3500
- Engr Stats
- Upper Level BIO

**Semester 7**
- Major Appr Elect
- Major Appr Elect
- Major Appr Elect
- Major Appr Elect

**Semester 8**
- Major Appr Elect
- Major Appr Elect
- Major Appr Elect
- Major Appr Elect

**KEY**
- Common Curriculum
- Engr Dist
- Major Program
- Elective
- prerequisite
- prerequisite or corequisite

- Semester 1
- Semester 2
- Semester 3
- Semester 4
- Semester 5
- Semester 6
- Semester 7
- Semester 8
a CalS matriculants must enroll in CHEM 2070 (fall); CoE matriculates must enroll in CHEM 2090 (fall, spring). Students in either college may also substitute CHEM 2150 for either CHEM 2070 or 2090.
b BEE 1510 and BEE 1200 required of CalS matriculates. CS 111X and ENGRI required of CoE matriculates.
c The major program includes nine (9) credits of courses outside the major. These are satisfied by ENGRD 2020, CEE 3040 or ENGRD 2700, and a non-BEE major approved elective.
d In addition to the Freshman Writing seminars, a technical writing course must be taken as an engineering distribution, liberal studies, approved elective or major course.
e Choose two of the following four courses: BIOMG 1350, BLOG 1440 or BLOG 1445 or BIOEE 1610; plus BLOG 1500. All BLOG courses must be taken for letter grade. If you received a 4 on AP BIO, you will receive 4 credits of intro bio. You will still need to take one of the four courses above plus the lab (BLOG 1500). If you received a 5 on AP BIO, you will receive 8 credits of intro bio and that will satisfy the intro bio requirement.
f Either biochemistry or microbiology is required: BIOMG 3300 or BIOMG 3330 or BIOMG 3350 or BIOMG 3310 +3320, or BIOMI 2900, or CEE 4510.
g Upper-level Biology: any biology course at the 2000-level or above which has a biology prerequisite and is taken for a letter grade. This requirement may also be satisfied by an upper-level course in a science department (excluding engineering, fine arts, liberal studies and mathematics) which has a biology (not social science) content of 95% or greater and a biology prerequisite. Students must receive approval for these alternative courses by consulting their BE faculty advisor or the main BE Advising Office, 207 Riley-Robb Hall. (One credit seminars may not be used to meet this requirement.)
h Engineering electives must include a BE capstone design course and a BE lab experience course. See department web page for a current list of approved courses.
i BEE 2220 or ENGRD 2210 and Engineering Statistics preferably before Semester 6.