Bioengineering B.S. Degree: Biomolecular
2015-2016 Curriculum Chart

Math & Statistics

•MATH 3 or AMS 3 or math placement of 400 or higher
MATH 19A
Calculus
[F / W / Sp]

•MATH 19A
MATH 19B
Calculus
[F / W / Sp]

•MATH 11B or MATH 19B or AMS 11B
AMS 131
Intro to Probability Theory
[F]

•AMS 131 or CMPE 107
AMS 132
Statistical Inference
[W]

Chemistry

• MATH 3
CHEM 1A
General Chemistry
[F / W / Sp]

CHEM 1B/M
General Chemistry
[F / W / Sp]

•CHEM 1A
CHEM 1C/N
General Chemistry
[F / W / Sp]

•CHEM 1B, 1C/N
CHEM 108A/L
Organic Chemistry
[F / W]

Biochemistry

OR

•CHEM 108A/L
CHEM 108B/M
Organic Chemistry
[W / Sp]

•CHEM 108B or 112C, BIOL 20A
BIOC 100A
Biochemistry & Molecular Biology
[F]

•BIOC 100A
BIOC 100B
Biochemistry & Molecular Biology
[W]

•Coreq: BIOL 100, 101 or BIOC 100A
BIOL 101L
Biochemistry Laboratory
[W / Sp]

•BIOL 20A, BIOE 20B, CHEM 108A or 112A
BIOL 100
Biochemistry
[F / W]

•BIOL 100 or BIOC 100A
BIOL 101/L
Molecular Biology & Biochemistry Lab
[W / Sp]

Biochemistry Lab Elective*
_____

***Biochemistry Lab Electives:**
BIOL 110L: Cell Biology Lab
BIOL 115L: Eukaryotic Molecular Bio Lab
BIOL 120L: Development Lab

Biology

BME 5
Introduction to Biotechnology
[F / W / Sp]

•CHEM 1A, 1B
BIOL 20A
Cell & Molecular Biology
[F / W / Sp]

•BIOL 20A
BIOE 20B
Development & Physiology
[F / W / Sp]

•BIOL 20A, BIOE 20B
BIOL 105
Genetics
[F / W / Sp]

•BIOL 20A, BIOE 20B or BIOL 105, BIOL 100 or Bioc 100A
BME 150
Molecular Biomechanics
[Sp]

Biology Elective*
_____

***Biology Electives:**
BIOL 110: Cell Biology
BIOL 115: Eukaryotic Molecular Biology
METX 119: Microbiology

Programming

•MATH 3 or 11A or 19A or AMS 3 or math placement of 400 or higher
CMPS 12A/L*
Introduction to Programming
[F / W / Sp]

•BIOL 100 or BIOL 105 or BIOC 100A
BME 110
Bioinformatics Tools
[F / W]

•BIOL 20A or 21A
BME 160/L
Research Programming
[F/ Sp]

**Students may choose to take CMPS 5J & CMPS 11 OR CMPE 12/L & 13/L in place of CMPS 12A/L*

Physics & Electronics

•Coreq: MATH 19A or 20A
PHYS 5A/L*
Intro to Physics I
[F / W]

•MATH 19B or 20B and Phys 5A/L
PHYS 5C/N*
Intro to Physics III
[Sp]

•MATH 19B or 20B or 11B
Coreq: PHYS 5C/N or 6C/N
BME 101/L
Applied Circuits
[Sp]

**Students may choose to take the Physics 6 series in place of the Physics 5 series (6A/L, 6B/M, & 6C/N for 5AL, 5B/M, & 5C/N, respectively).*

Design Project OR Senior Thesis

•BME 140 or 150, and previous or concurrent enrollment in BME or CMPE 185
BME 123A
Bioengineering Project I
[F]

•BME 123A
BME 123B
Bioengineering Project II
[W]

**Students can also choose to take CMPE or EE 129A, 129B or 129C as their design project.*

BME 195
Senior Thesis

BME 195
Senior Thesis

BME 195
Senior Thesis

BME 123T
Senior Thesis Presentation
[W]

OR

IGEM Project

•co-req BME or CMPE 185
BME 180
Professional Practice in Bioengineering (2 Units)
[Sp]

BME 188A*
Synthetic Biology – Mentored Research A
[SU]

BME 188B*
Synthetic Biology – Mentored Research B
[SU]

Humanities

BME 80G
Bioethics in the 21st Century
[F]

•CMPS 12B or CMPE 12 or BME 160
CMPE 185
Technical Writing
[F / W / Sp]
OR
•Previous or Concurrent Enrollment in BIOL 101L or BIOL 100K or BME 150L
BME 185
Technical Writing Bioengineers
[W]

Electives

Upper-Division PBSci/BSOE Elective
_____

Bioengineering Design Elective*
_____

***Bioengineering Design Electives:**
BME 128: Protein Engineering
BME 140: Bioinstrumentation
BME 177: Engineering Stem Cells

Notes:

- Denotes pre-requisites and co-requisites.
- Choice of electives will need faculty approval (see back).
- * Pre-req for BME 188A is BME 180 and perm. of instructor; pre-req for BME 188B is BME 188A and perm. of instructor

Information about the prerequisites and scheduling of courses can change without notice—please check your plan each quarter and adjust for any changes.

Bioengineering B.S. Degree: Biomolecular
2015-2016 Curriculum Chart

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Bioengineering Electives Approval Form

Elective 1: _____

Elective 2: _____

Elective 3: _____

Elective 4: _____

Explanation for choice of electives:

_____

_____

_____

_____

Student Name:

Staff Advisor:

Faculty Advisor: