Bioengineering Graduation Requirements
University of Washington
Depts.washington.edu/bioe

Requirement Sheet Key
- = Upper-Division Admission Requirements
*= Pre-requisite may be in progress at time of application
**= Contact department adviser if Biol 180 is full during fall quarter
***= Students are strongly encouraged to complete BIOEN 215 prior to application to the department

Mathematics (24-25 Credits)
- Math 124 (5cr) – Calculus I
- Math 125 (5cr) – Calculus II
- Math 126 (5cr) – Calculus III
- Math 307 (3cr) – Differential Equations [pr: Math 125]
- Math 308 (3cr) – Matrix Algebra [pr: Math 126]
- AMATH 351/352 may substitute for Math 307/308
- IND E 315 (3cr) – Prob. & Statistics [pr: Math 307]
- (Math/Stat 390 may substitute for IND E 315)

Natural Sciences (44 Credits)
- Chem 142 (5cr) – General Chemistry with lab
- Chem 152 (5cr) – General Chemistry with lab
- Chem 162 (5cr) – General Chemistry with lab
  (Chem 144 or 145 series can substitute for 142 series)
  -Or-
- Phys 121 (5cr) – Mechanics with lab [pr: Math 124]
- Phys 122* (5cr) – Electro/Oscillatory with lab [pr: Math 125]
- Biol180** (5cr) – Intro Biology
- Biol 200* (5cr) – Intro Biology [pr: Biol 180, Chem 152]
- Biol 220 (5cr) – Intro Biology [pr: Biol 200, Chem 152]

Written & Oral Communications (5 Credits)
- English Comp (5cr) – English Composition

Visual, Literary & Performing Arts/Individuals & Society (VLPA/I&S) (24 Credits)
Minimum 10 credits in VLPA required.
Minimum 10 credits in I&S required.
Remaining 4 credits can be either VLPA or I&S.
Minimum 3 credits in Diversity (DIV) required.

Engineering Fundamentals (4 Credits)
- AMATH 301* (4cr) – Beg. Scientific Computing

BioE Core Courses (45 Credits)
- BIOEN 215 (3cr)** – Intro to BioE Problem Solving
- BIOEN 315 (3cr) – Biochemical & Molecular Bioengineering
- BIOEN 316 (4cr) – Biomedical Signals and Sensors
- BIOEN 317 (2cr) – Biomedical Signals and Sensors Lab
- BIOEN 325 (3cr) – Biotransport I
- BIOEN 326 (3cr) – Solid and Gel Mechanics
- BIOEN 327 (2cr) – Fluids and Materials Lab
- BIOEN 335 (3cr) – Biotransport II
- BIOEN 336 (3cr) – Bioengineering Systems and Control
- BIOEN 337 (2cr) – Mass Transport and Systems Lab
- BIOEN 345 (4cr) – Failure Analysis of Human Physiology
- BIOEN 401 (3cr) – BioE Capstone Fundamentals

Students must complete one of the two following options
- BIOEN 402 (10cr) – BioE Capstone Design
  -Or-
- BIOEN 403,404,405 (10cr) – BioE Capstone Design

BioE Senior Electives (15 Credits)
Students complete one concentration: Molecular and Materials Bioengineering; Cells, Tissues, and Systems; Diagnostics and Therapeutic Instrumentation. See website or contact advising for a list of acceptable courses. The department offers a degree option in NanoMolecular Engineering. See website for details.

Approved Engineering Electives (9 Credits)
See BioE Advising for a list of acceptable courses. Extra Bioengineering senior elective credit may fulfill this requirement.

Free Electives (14-15 Credits)

Total Credits Required for Graduation (180 Credits)

Early Admission Requirements
1. Early Admission is an option for Autumn Quarter Only.
2. Students must be enrolled at UW-Seattle.
3. Math 124, 125 & 126 or equivalent.
4. Chem 142, 152 & 162 or equivalent.
5. 5 credits of English Composition.
6. 15 credits of the above 30 must have been completed at UW.
7. Running Start students should consult w/ a BioE adviser.

Application Deadlines
Early Admission – July 1st
Upper Division Admission – February 1st

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BioE
Bioengineering Sample Curriculum
University of Washington
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Freshman – Autumn Quarter
◆ MATH 124 – Calculus I 5
◆ CHEM 142 – Chem & Lab I 5
◆ BIOEN 215 – Intro to BioE
   Problem Solving 3
   VLPA/I&S 2
Quarter Total 15

Freshman – Winter Quarter
◆ MATH 125 – Calculus II 5
◆ CHEM 152 – Chem & Lab II 5
◆ English Comp.
Quarter Total 15

Freshman – Spring Quarter
◆ MATH 126 – Calculus III 5
◆ CHEM 162 – Chem & Lab III 5
◆ AMATH 301 -Scientific Computing* 4
   General Elective (Seminar) 1
Quarter Total 15

Sophomore – Autumn Quarter
◆ BIOL 180 – Intro Biology I 5
◆ PHYS 121 – Mechanics & Lab I 5
◆ CHEM 223 or 237-Organic Chem* 4
Quarter Total 14

Sophomore – Winter Quarter
◆ BIOL 200 – Intro Biology II*
   PHYS 122 – Electro & Lab I*
   MATH 307 – Diff. Equations
   General Elective
Quarter Total 15

Sophomore – Spring Quarter
◆ BIOL 220 – Intro Biology III 5
◆ MATH 308 – Matrix Algebra 3
◆ BIOEN 315 – BioChem & Mol BioE 3
   BIOEN 316 – Biomed Signals & Sens 4
   BIOEN 317 - Biomedical Signals and
   Sensors Lab 2
Quarter Total 17

Junior – Autumn Quarter
BIOEN 325 – Biotransport I 3
BIOEN 326 – Solid and Gel Mech. 3
BIOEN 327 – Fluids and Materials Lab 2
IND E 315 – Stats for Engineers 3
VLPA/I&S 5
Quarter Total 16

Junior – Winter Quarter
BIOEN 335 – Biotransport II 3
BIOEN 336 – BioEn Sys. & Control
   BIOEN 337 – Mass Transport and Sys.
   Lab 2
   ENGR Elective 3
   VLPA/I&S 5
Quarter Total 16

Junior – Spring Quarter
BIOEN 345 – Failure Analysis of Human
   Physiology 4
   BIOEN 401 – BioE Capstone Fund. 3
   BIOE Sr. Elective 3
   ENGR Elective 3
   VLPA/I&S 2
Quarter Total 15

Senior – Autumn Quarter
BIOEN 402 or 403 – Capstone variable cr
   BIOEN Concentration Elective I 3
   BIOEN Concentration Elective II 3
   VLPA/I&S 5
Quarter Total 13

Senior – Winter Quarter
BIOEN 402 or 404 – Capstone variable cr
   BIOEN Concentration Elective III 3
   ENGR Elective 3
   VLPA/I&S 5
Quarter Total 16

Senior – Spring Quarter
BIOEN 402 or 405 – Capstone variable cr
   BIOEN Concentration Elective IV 3
   General Elective 5
   General Elective 3
Quarter Total 14

Bold face courses are required for upper-division admission.
*May be in-progress during quarter of admission
Students planning on attending medical school are encouraged to meet with an advisor to discuss additional requirements.

For more information contact:
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-or-
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