This resource is for ENGRUD students who entered the UW in AUT22 or later.

**Bioresource Science & Engineering**
**Graduation Requirements**
University of Washington
https://sefs.uw.edu/students/undergraduate/bse-major

**ENGRUD Requirement Sheet - Key**
◆ = Placement Requirements
★ = Pick one to satisfy placement requirement
Placement: July 1 at the end of the first year

◆ E-FIG: ENGR 101 and GEN ST 199 (2cr)

**Mathematics (24-26cr)**
◆ MATH 124, 125, 126 - Calc. w/ Analytic Geom I-III (15cr)
MATH 207 - Intro to Differential Equations (3cr)  [pr: MATH 125]
MATH 208 - Matrix Algebra w/ Applications (3cr)  [pr: MATH 126]
Q SCI 381 - Intro to Probability & Stats (5cr)
OR STAT 390 - Stat Methods in Engr. & Science (4cr)
OR IND E 315 - Prob & Stats for Engineers (3cr)

**Sciences (38cr)**
◆ CHEM 142 - General Chemistry (5cr)
★ CHEM 152 - General Chemistry (5cr)
★ CHEM 162 - General Chemistry (5cr)
CHEM 237 - Organic Chemistry (4cr)  [pr: CHEM 153, 155 or 162]
CHEM 238 - Organic Chemistry (4cr)  [pr: CHEM 237 or 335]
◆ PHYS 121 - Mechanics (5cr)  [pr: MATH 124 or MATH 134]
★ PHYS 122 - Electromagnetism (5cr)  [pr: MATH 125 or MATH 134; PHYS 121]
★ PHYS 123 - Waves (5cr)  [pr: MATH 126 or MATH 134; PHYS 122]

**General Education Requirements (29cr)**
**Written and Oral Communication:**
◆ English Composition (5cr)
ENGR 231 - Intro to Technical Communication (3cr)

**Areas of Inquiry, Part I - Outside of Major**
Social Sciences - SSc (10cr)
Natural Sciences - NSc (10cr)
(Met with MATH 124 and CHEM 142 above)

**Areas of Inquiry, Part II - No Overlap Restriction with Major Requirements**
Arts & Humanities – A&H (10cr)
Social Sciences - SSc (10cr)
ECON 200 - Introduction to Microeconomics (5cr)
Remaining credits met in major (BSE 480 and 481)
Diversity - DIV (3cr) - (may overlap with A&H or SSc)

**Engineering Fundamentals (4cr)**
A A 260 - Thermodynamics (4cr)

**Departmental Core (63cr)**
BSE 150 - Bioresource Science & Engineering Seminar (1cr)
BSE 201 - Intro to Pulp, Paper and Bioproducts (3cr)
BSE 202 - Pulp and Paper Lab and Field Studies (1cr)
BSE 248 - Paper Properties (4cr)
BSE 391 - Engineering Principles of Biorefineries (5cr)
BSE 392 - Bioresource Transport Phenomena (5cr)
BSE 406 - Natural Products Chemistry (5cr)
BSE 410 – Industrial Wastewater Treatment & Reduction (4cr)
BSE 420 - Bioresource Engineering I (4cr)
BSE 421 - Bioresource Engineering II (4cr)
BSE 422 - Bioresource Engineering III (4cr)
BSE 426 - Bioresource Laboratory (4cr)
BSE 430 - Papermaking Processes (5cr)
BSE 436 - Pulp and Paper Laboratory II (4cr)
BSE 480 - Bioresource Design I (4cr)
BSE 481 - Bioresource Design II (5cr)
BSE 497 - Pulp and Paper Internship (1cr)

**Engineering Electives (11cr minimum)**
See department for list of approved courses

**Business Option (12cr minimum)**
See department for list of approved courses

**Free Electives**
Additional coursework in any subject area not used elsewhere in degree.

**Total credits required for graduation: 180cr**

Honors or accelerated sequences of chemistry, math and physics will satisfy the placement requirements. AMATH 351/352/353 may be alternatives to MATH 207/208/209, work with the department to confirm.

Updated July 2022
This resource is for ENGRUD students who entered the UW in AUT22 or later.

This is a sample four-year plan for ENGRUD students that prepares them to be able to request placement at the end of the first year. It is intended to provide a framework for ENGRUD students to reference as they create their own individual academic plan.

Courses required to request placement for ENGRUD students: **ENGR 101; MATH 124, 125, 126; CHEM 142; PHYS 121; English Composition; ENGRUD students who are interested in BSE should choose one of the following: CHEM 152, CHEM 162; PHYS 122, PHYS 123.**

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<th>First Year</th>
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<td>A A 260 - Thermodynamics</td>
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<td>CHEM 237 - Organic Chemistry</td>
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<td>PHYS 122 - Electromagnetism</td>
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