

This resource is for ENGRUD students who entered the UW in AUT24 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] OR AMATH 351

MATH 208 - Matrix Algebra w/ Applications (3cr)  
[pr: MATH 126] OR AMATH 352

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)**  
Writing (10cr) - 5-7cr met by coursework in the major

***Areas of Inquiry***

Arts & Humanities - A&H (10cr)

Social Sciences - SSc (20cr)

10cr from outside the major

ECON 200 (5cr)

5cr met by coursework in the major

***Diversity*** - DIV (5cr) (may overlap with Areas of Inquiry or W)

**Engineering Fundamentals (4cr)**

A A 260 - Thermodynamics (4cr)

**Departmental Core (63cr)**

BSE 210 - Concepts in Bioproduct Sustainability (4 cr)

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) (SSc)

BSE 481 - Bioresource Design II (5cr) (SSc)

BSE 497 - Pulp and Paper Internship (1cr)

**Engineering Electives (12cr 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*

*Updated September 2024*

This resource is for ENGRUD students who entered the UW in AUT24 or later.



**Bioresource Science & Engineering  
Sample Curriculum**  
University of Washington  
<https://sefs.uw.edu/students/undergraduate/bse-major>

**Biores Sci & Engineering Advising**  
Office: 116/130 Anderson Hall; Box 352100  
Seattle, WA 98195-2100  
Phone: (206) 543-3077  
Email: [sefssadv@uw.edu](mailto:sefssadv@uw.edu)

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.**

#### First Year

<u>Autumn Quarter</u>	<u>cr</u>	<u>Winter Quarter</u>	<u>cr</u>	<u>Spring Quarter</u>	<u>cr</u>
◆ MATH 124 - Calc. w Analytic Geom I	5	◆ MATH 125 - Calc. w Analytic Geom II	5	◆ MATH 126 - Calc. w Analytic Geom III	5
◆ CHEM 142 - General Chemistry	5	★ CHEM 152 - General Chemistry	5	★ CHEM 162 - General Chemistry	5
◆ E-FIG; ENGR 101 & GEN ST 199	2	◆ English Composition	5	◆ PHYS 121 - Mechanics	5
A&H / SSc	3				
Qtr. Total:	<b>15</b>	Qtr. Total:	<b>15</b>	Qtr. Total:	<b>15</b>

#### Second Year

<u>Autumn Quarter</u>	<u>cr</u>	<u>Winter Quarter</u>	<u>cr</u>	<u>Spring Quarter</u>	<u>cr</u>
MATH 207 - Differential Equations	3	MATH 208 - Matrix Algebra	3	A A 260 - Thermodynamics	4
CHEM 237 - Organic Chemistry	4	PHYS 123 - Waves	5	BSE 248 - Paper Properties	4
PHYS 122 - Electromagnetism	5	CHEM 238 - Organic Chemistry	4	ECON 200 - Microeconomics	5
BSE 210 - Bioproduct Sustainability	4	A&H / SSc / DIV	5		
Qtr. Total:	<b>16</b>	Qtr. Total:	<b>17</b>	Qtr. Total:	<b>13</b>

#### Third Year

<u>Autumn Quarter</u>	<u>cr</u>	<u>Winter Quarter</u>	<u>cr</u>	<u>Spring Quarter</u>	<u>cr</u>
BSE 391 - Engineering Principles of Biorefineries	5	BSE 392 - Bioresource Transport Phenomena	5	BSE 421 - Biores. Engineering II	4
BSE 406 - Natural Products Chemistry	5	BSE 420 - Biores. Engineering I	4	BSE 426 - Bioresource Lab	4
Writing course	3	BSE 410: Industrial Wastewater treatment Engineering Elective	4	Engineering Elective	4
			4	QSCI 381: Statistics	5
Qtr. Total:	<b>13</b>	Qtr. Total:	<b>17</b>	Qtr. Total:	<b>17</b>

#### Fourth Year

<u>Autumn Quarter</u>	<u>cr</u>	<u>Winter Quarter</u>	<u>cr</u>	<u>Spring Quarter</u>	<u>cr</u>
BSE 422 - Biores. Engineering III	4	BSE 436 - Pulp and Paper Lab II	4	BSE 481 - Bioresource Design II (I&S)	5
BSE 430 - Papermaking Processes	5	BSE 480 - Bioresource Design I (I&S)	4	Engineering Elective	4
BSE 497 - Internship	1	A&H / SSc	4	A&H / SSc	5
A&H / SSc	5				
Qtr. Total:	<b>15</b>	Qtr. Total:	<b>13</b>	Qtr. Total:	<b>14</b>

◆ = Placement Requirement

★ = Pick **one** to satisfy placement requirement

*Honors or accelerated sequences of chemistry, math and physics will satisfy the placement requirements*

Updated September 2024