

	Bioresource Science and Engineering Graduation Requirements University of Washington https://sefs.uw.edu	Admission Requirement Sheet – Key ◆ = Admission Requirements – to be completed prior to application ❖=ENGRUD Placement requirement or recommended ◆ = Enrollment or satisfactory progress requirements – to be completed before Fall quarter of Junior year
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Math and Statistics (18-26 Cr)		Engineering Elective Credits (12 cr)	
◆❖ MATH 124, 125, 126- Calculus with Analytical Geometry I, II, III (15cr) or honors equivalent (MATH 134, 135, 136)	<input type="checkbox"/>	12 Credits from the Engineering Elective list at https://sefs.uw.edu/students/undergraduate/bse-major/bse-requirements/	<input type="checkbox"/>
◆MATH 207 (or AMATH 351) - Introduction to Differential Equations (3cr) [pr: MATH 125] (not required if MATH 134-136 completed)	<input type="checkbox"/>	Department Requirements (62 Credits)	
◆MATH 208 (or AMATH 352)- Matrix Algebra with Applications (3cr) [pr: MATH 126] (not required if MATH 134-136 completed)	<input type="checkbox"/>	BSE 210: Concepts in Bioproduct Sustainability (4 cr)	<input type="checkbox"/>
One Statistics course from the following (3-5 credits): QSCI 381, IND E 315, or STAT 390	<input type="checkbox"/>	BSE 248: Paper Properties (4cr)	<input type="checkbox"/>
Sciences (39-42 cr)		BSE 391 Engineering Principles of Biorefineries (5 cr)	<input type="checkbox"/>
◆❖CHEM 142 - General Chemistry (5 cr) or CHEM 143/CHEM 145	<input type="checkbox"/>	BSE 392 Bioresource Transport Phenomena (5 cr)	<input type="checkbox"/>
◆❖ CHEM 152 - General Chemistry (5 cr) or CHEM 153/155	<input type="checkbox"/>	BSE 406 Natural Products Chemistry (5 cr)	<input type="checkbox"/>
◆CHEM 162 – General Chemistry (5 cr) or CHEM 165 (162/165 not required if CHEM 153 completed)	<input type="checkbox"/>	BSE 410 Industrial Wastewater Treatment and Reduction (4 cr)	<input type="checkbox"/>
◆CHEM 237 – Organic Chemistry (4 cr)	<input type="checkbox"/>	BSE 420 Bioresource Engineering 1 (4 cr)	<input type="checkbox"/>
◆CHEM 238 - Organic Chemistry (4 cr)	<input type="checkbox"/>	BSE 421 Bioresource Engineering 2 (4 cr)	<input type="checkbox"/>
◆❖PHYS 121 - Mechanics (5cr) (or PHYS 141 – honors)	<input type="checkbox"/>	BSE 422 Bioresource Engineering 3 (4 cr)	<input type="checkbox"/>
◆PHYS 122 - Electromagnetism (5 cr) (or PHYS 142 - honors)	<input type="checkbox"/>	BSE 426 Bioresource Laboratory (4 cr)	<input type="checkbox"/>
◆PHYS 123 - Waves (5 cr) (or PHYS 143 - honors)	<input type="checkbox"/>	BSE 430 Papermaking Processes (5 cr)	<input type="checkbox"/>
◆AA 260 - Thermodynamics (4 cr) [must be complete before Fall Junior year]	<input type="checkbox"/>	BSE 436 Pulp and Paper Laboratory II (4 cr)	<input type="checkbox"/>
Additional Math/Statistics/Sciences courses: 0-11 NSc credit if needed to reach 68 NSc credits (formerly NW)	<input type="checkbox"/>	BSE 480 Bioresource Design I (4 cr) (first Capstone course)	<input type="checkbox"/>
General Education Requirements 33-36 credits		BSE 481 Bioresource Design II (5 cr) (second Capstone course)	<input type="checkbox"/>
Basic Skills (8-11 cr):		BSE 497 Internship (1 cr)	<input type="checkbox"/>
◆❖ English Composition – ENGL 131 or similar (5cr)	<input type="checkbox"/>	Free Electives	
ENGR 231 – Introduction to Technical Communication (3cr)	<input type="checkbox"/>	Free Elective Credits to bring the total to 180	
Diversity-DIV (3cr) – choose a course that also meets A&H/SSc for it to double-count	<input type="checkbox"/>	Total credits required for graduation: 180cr	
Areas of Inquiry (25 cr):			
Arts & Humanities (A&H) (formerly VLPA) (10cr)	<input type="checkbox"/>		
Social Science (SSc) (formerly I&S) (10cr) (other than ECON 200)	<input type="checkbox"/>		
ECON 200: Microeconomics	<input type="checkbox"/>		

****BSE Major: Business Option (must be declared with the BSE advisor, will appear on transcript; additional credits required (12 credits minimum) See <https://sefs.uw.edu/students/undergraduate/bse-major/bse-requirements/>**

This is a sample four-year plan for Transfer and other UW students who start in Autumn Junior year or Spring Sophomore year, or ENGRUD students who place in BSE during the ENGRUD placement process. It is intended to provide a framework for students to reference as they create their own individual academic plan.

	Autumn Quarter	Cr	Winter Quarter	Cr	Spring Quarter	Cr
Freshman	◆❖ MATH 124 – Calculus with Analytical Geometry I	5	◆❖ MATH 125 – Calculus with Analytical Geometry II	5	◆❖ MATH 126 – Calculus with Analytical Geometry III	5
	◆❖ CHEM 142 – General Chemistry	5	◆❖ CHEM 152 – General Chemistry	5	◆ CHEM 162 – General Chemistry	5
	◆❖ English Composition	5	Any SSc + DIV cr	5		
	ENGR 101 (ENGRUD only) and or GEN ST 199 (FIG)	1-2			◆❖ PHYS 121 - Mechanics	5
	Qtr. Total:	15-17	Qtr. Total:	15	Qtr. Total:	15
Sophomore	Autumn Quarter	Cr	Winter Quarter	Cr	Spring Quarter	Cr
	◆ PHYS 122 – Electromagnetism	5	◆ PHYS 123 – Waves	5	◆ AA 260 – Thermodynamics [Must take before Autumn of Junior year (also in Summer)]	4
	◆ CHEM 237 – Organic Chemistry	4	◆ CHEM 238 – Organic Chemistry	4	BSE 248 - Paper Properties	4
	◆ MATH 207 Differential Eq	3	◆ MATH 208 – Linear Algebra	3	ECON 200 - Microeconomics	5
	BSE 210 – Bioproduct Sustain.	4	Any SSc Credit	5		
	Qtr. Total:	15	Qtr. Total:	17	Qtr. Total:	13
Junior	Autumn Quarter	Cr	Winter Quarter	Cr	Spring Quarter	Cr
	BSE 391 – Engr Principles Biorefineries	5	BSE 392 – Bioresource Transport	5	BSE 421 – Bioresource Sci/Eng 2	4
	ENGR 231 – Introduction to Technical Communication	3	BSE 420 – Bioresource Sci/Eng 1	4	BSE 426- Bioresource Lab	4
	BSE 406 – Natural Products Chemistry	5	BSE 410 – Industrial Wastewater Treatment	4	Engineering Elective	4
	[If Jr. Transfer, take BSE 210]		Engineering Elective	4	[If Jr. Transfer, take BSE 248]	
					Q SCI 381: Statistics	5
Senior	Qtr. Total:	13	Qtr. Total:	17	Qtr. Total:	17
	Autumn Quarter	Cr	Winter Quarter	Cr	Spring Quarter	Cr
	BSE 422 – Bioresource Sci/Eng 3	4	BSE 436 - Papermaking Lab II	4	BSE 481 – Bioresource Design II	5
	BSE 430 – Papermaking Process	5	BSE 480 – Bioresource Design	4	Any SSc Credit	5
	BSE 497 - Internship	1	Any A&H	5	Engineering Elective	4
	Any A&H	5				
	Qtr. Total:	15	Qtr. Total:	13	Qtr. Total:	14

- BSE-Prefixed courses are only available in the quarter indicated. Classes should be taken in the year indicated.
- Complete Free Electives as needed to reach 180 credits for the BSE degree.

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