BSEE B.S. Electrical Engineering Graduation Requirements

University of Washington
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Requirement Sheet Key

- ♦ Admission requirements complete by application deadline
- ✓ Enrollment requirements complete before Autumn start

Mathematics (27-28 Credits)

- ♦ MATH 124 (5cr) – Calculus I
- ♦ MATH 125 (5cr) – Calculus II *[pr: MATH 124]*
- ♦ MATH 126 (5cr) – Calculus III *[pr: MATH 125]*
- ✓ MATH 207 (3cr) – Differential Equations *[pr: MATH 125] **

MATH 208 (3cr) – Matrix Algebra *[pr: MATH 126] **
MATH 224 (3cr) – Advanced Calculus *[pr: MATH 126] **
One course from the following:
MATH/STAT 394, STAT 390, STAT 391, or IND E 315 *(3-4cr)*

Sciences (20 Credits)

- ♦ CHEM 142 (5cr) – General Chemistry with lab
- ♦ PHYS 121 (5cr) – Mechanics with lab *[pr: MATH 124 concurrent]*
- ♦ PHYS 122 (5cr) – Electromagnetism with lab *[pr: MATH 125 concurrent & PHYS 121]*
- ✓ PHYS 123 (5cr) – Waves with lab *[pr: MATH 126 concurrent & PHYS 122]*

Written & Oral Communications (12 Credits)

- ♦ English Comp. (5cr) – English Composition

ENGR 231 (3cr) – Intro. to Technical Writing *[pr: Engl. Comp.]*
EE 393 (4cr) – Adv. Tech. Comm. or ENGR 333 (4cr) – Adv. Tech. Comm. in the Engineering Workplace *[pr: ENGR 231]*

Arts and Humanities (A&H)/Social Sciences (SSc)
(formerly known as VLPA/I&S) **(25 Credits)**

Minimum 10 credits in A&H required.
Minimum 10 credits in SSc required.
Remaining 5 credits can be either A&H or SSc.
Minimum 5 credits in Diversity (DIV) required. Can overlap with A&H/SSc credits. *Special Note:* For students admitted to the University prior to autumn quarter 2023, the DIV requirement is 3 credits.

Computer Programming (4-5 Credits)

Either CSE 123 (4cr) – Intro to Computer Programming III *[pr: CSE 122 or Paul G. Allen School Self-Placement]* or CSE 143 (5cr) – Computer Programming II *[pr: CSE 142]*

EE Core Courses (14 Credits)

EE 215 (4cr) – Fund. of EE *[pr: PHYS 122 & MATH 126; MATH 207 concurrent]*
EE 233 (5cr) – Circuit Theory *[pr: EE 215]*
EE 242 (5cr) – Signals, Systems, and Data I *[pr: MATH 207 concurrent & EE 241 concurrent]*

Professional Issues (1 Credit Min)

Covers issues relating to professional development, ethical dilemmas, and societal expectations of engineers. Please see an ECE adviser for a list of the most current course options.

EE Electives (44 Credits)

At least one major concentration and enough additional EE courses to reach a minimum of 44 credits are required. Major concentrations each include a mix of required 200-, 300- and 400-level courses, as well as suggested electives. May include up to 12 credits of experiential learning, including EE 499 and up to 4 credits of ENGR 321 internship credit.

Concentrations to choose from include:
- Advanced Electronics and Photonic Devices
- Biomedical Instrumentation (*Retired Winter 2022*)
- Communications
- Controls
- Digital Signal and Image Processing
- Digital VLSI
- Embedded Computing Systems
- Integrated Systems
- Neural Engineering
- Sustainable Power Systems

Engineering Electives (10 Credits)

Students may choose 200+ level courses from both the ECE department and any other ENGR departments to fulfill this requirement.

Approved Non-EE Electives (10 Credits)

Refer to the ECE website (general education portion of BSEE degree requirements) for specifics of what can count.

Free Electives (12-14 Credits)

Total Credits Required for Graduation (180 Credits)

Nanoscience and Molecular Engineering (NME) Option

This degree option is offered in cooperation with the Molecular Engineering and Sciences Institute. Students may select this option after admission to the regular BSEE program. Students are required to take:
NME 220 (4cr) – Mol/Nano Principles
NME 221 (1cr) – Nano Mol Eng Sem I
NME 421 (1cr) – Nano Mol Eng Sem III
Students in the NME Option have a restricted choice of major concentration area - refer to the ECE website for more detail.

* As of autumn 2021, MATH 307, MATH 308, and MATH 324 are renumbered as MATH 207, MATH 208, and MATH 224, respectively. Students can apply either the 200- or 300-level number for each course toward their degree requirements (AMATH 351/352 may substitute for MATH 207/208).

Last revised July 2023

BSEE B.S. Electrical Engineering Sample Curriculum

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Freshman – Autumn Quarter		**Freshman – Winter Quarter**		**Freshman – Spring Quarter**	
♦ **MATH 124 – Calculus I**	5	♦ **MATH 125 – Calculus II**	5	♦ **MATH 126 – Calculus III**	5
♦ **CHEM 142 – General Chemistry**	5	♦ **PHYS 121 – Mechanics**	5	♦ **PHYS 122 – Electromagnetism**	5
♦ **English Composition**	5	A&H	5	A&H/SSc/DIV	5
Quarter Total	15	Quarter Total	15	Quarter Total	15

Sophomore – Autumn Quarter		**Sophomore – Winter Quarter**		**Sophomore – Spring Quarter**	
✓*MATH 207 – Diff. Equations* *	3	MATH 208 – Matrix Algebra *	3	MATH 224 – Adv. Calculus *	3
✓*PHYS 123 – Waves*	5	CSE 142 – Comp. Programming I	4	CSE 143 – Comp. Programming II	5
Engr. Elective	4	EE 215 – Fundamentals of EE	4	EE 233 – Circuit Theory	5
Free Elective	3	Free Elective	3	Approved Non-EE Elective	3
Quarter Total	15	Quarter Total	14	Quarter Total	16

Junior – Autumn Quarter		**Junior – Winter Quarter**		**Junior – Spring Quarter**	
EE 242 – Signals, Systems & Data I	5	EE Course	5	EE 398 – Professional Issues	1
EE 241 – Programming Sig. Proc.	2	EE Course	5	EE Course	5
ENGR 231 – Intro. Tech. Writing	3	Adv. Tech. Communication	4	Approved Non-EE Elective	4
Statistics requirement	3	EE Course	1	SSc	5
Quarter Total	13	Quarter Total	15	Quarter Total	15

Senior – Autumn Quarter		**Senior – Winter Quarter**		**Senior – Spring Quarter**	
EE Course	5	EE Course	5	EE Course	5
EE Course	5	EE Course	5	Engr. Elective	3
Engr. Elective	3	SSc	5	A&H	5
Free Elective	3			Approved Non-EE Elective	3
Quarter Total	16	Quarter Total	15	Quarter Total	16

Note: This is a sample plan for a student with zero incoming credits taking the minimum number of credits to graduate. Most students will need to adjust this plan based on individual interests (research, internship) and course choices (Professional Issues and Statistics have multiple options). Please work with your adviser to make adjustments.

Bold face courses are pre-requisites required completion by the application deadline.
Italicized courses are pre-enrollment required completion before the start of Autumn quarter.

For a list of EE degree electives and courses go to https://www.ece.uw.edu/academics/bachelor-of-science/bsee/degree-requirements/

For more information contact:
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