

This resource is for ENGRUD students who entered the UW in AUT21 or later.



**Electrical Engineering
Graduation Requirements**
University of Washington
<https://ece.uw.edu>

ENGRUD Requirement Sheet - Key:

- ◆ = Placement Requirements
- ★ = *Pick one to satisfy placement requirements*

Placement: July 1 at the end of the first year

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

Mathematics (24cr)

◆ 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]

MATH 224 - Advanced Multi-Variable Calculus (3cr)
[pr: MATH 126]

Statistics (3-4cr)

One course from the following: IND E 315 (3cr); STAT 390 (4cr); STAT 391 (4cr); MATH/STAT 394 (3cr)

Sciences (20cr)

◆ CHEM 142 - General Chemistry (5cr)

◆ PHYS 121 - Mechanics (5cr)
[pr: MATH 124 or MATH 134]

★ PHYS 122 - Electromagnetism (5cr)
[pr: MATH 125 or MATH 134]

★ PHYS 123 - Waves (5cr)
[pr: MATH 126 or MATH 134; PHYS 122]

Engineering General Education Requirements (37cr)

Written and Oral Communication (12cr):

◆ English Composition (5cr)

ENGR 231 - Introduction to Technical Communication (3cr)
E E 393 - Adv Tech Comm or Dept alternative (4cr)

Areas of Knowledge:

Visual, Literary & Performing Arts - VLPA (10cr)

Individuals & Society - I&S (10cr)

VLPA or I&S (5cr)

Diversity-DIV (3cr) (may overlap with VLPA/I&S)

Computer Programming (9cr)

★ CSE 142 - Computer Programming I (4cr)

CSE 143 - Computer Programming II (5cr)
[pr: CSE 142]

Departmental Core (14cr)

E E 215 - Fundamentals of Electrical Engineering (4cr)
[pr: MATH 126; MATH 207, may be concurrent; PHYS 122]

E E 233 - Circuit Theory (5cr)

E E 242 - Signal Processing I (5cr)
[pr: MATH 126 or MATH 207; E E 241; both may be concurrent]

Departmental Concentration (min 24cr)

Complete one concentration below. See department for list of approved courses.

- a. Advanced Electronic and Photonic Devices
- b. Biomedical Instrumentation
- c. Communications
- d. Controls
- e. Digital Signal and Image Processing
- f. Digital Very Large Scale Integration (VLSI)
- g. Embedded Computing Systems
- h. Integrated Systems
- i. Neural Engineering
- j. Power Electronics and Drives
- k. Sustainable Power Systems

Electrical Engineering Electives (up to 20cr)

See department for list of approved courses.

NOTE: Number of credits from Departmental Concentration and Electrical Engineering Electives above must total a minimum of 44 credits.

Professional Issues (1cr minimum)

Choose one course from the following:

E E 398, 406, 418, or 456

Engineering Electives (10cr)

See department for list of approved courses.

Approved non Electrical Engineering Electives (10cr)

Any course offered at the University of Washington numbered 200 or higher may be used for this requirement with the following exceptions:

- courses cross listed with an E E course
- courses in the BEE & TEE curriculum
- courses required for the degree
- independent study courses
- seminar courses subject to credit limit

Free Electives (6-7cr)

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 may be alternatives to MATH 207/208, work with the department to confirm.

Updated October 2021

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**Electrical Engineering
Sample Curriculum**
University of Washington
<https://ece.uw.edu>

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This is a sample four-year plan for ENGRUD students. 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, MATH 125, MATH 126; CHEM 142, PHYS 121; English Composition; ENGRUD students who are interested in EE should choose one of the following: CSE 142, 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 III	5	◆ MATH 126 - Calc w Analytic Geom III	5
◆ CHEM 142 - General Chemistry	5	★ CSE 142 - Comp Programming I	4	◆ PHYS 121 - Mechanics	5
VLPA / I&S	5	◆ English Composition	5	VLPA / I&S (or CSE 143)	5
◆ E-FIG: ENGR 101 & GEN ST 199	2				
Qtr. Total:	17	Qtr. Total:	14	Qtr. Total:	15

Second Year

<u>Autumn Quarter</u>	<u>cr</u>	<u>Winter Quarter</u>	<u>cr</u>	<u>Spring Quarter</u>	<u>cr</u>
PHYS 122 - Electromagnetism	5	PHYS 123 - Waves	5	CSE 143 - Comp Prog II (or VLPA / I&S)	5
MATH 207 - Differential Equations	3	MATH 208 - Matrix Algebra	3	MATH 224 - Advanced Multi-Variable Calculus	3
ENGR Elective	3	Approved Non-EE Elective	3	Approved Non-EE Elective	3
Free Elective	3	Free Elective	5	VLPA / I&S	5
Qtr. Total:	14	Qtr. Total:	16	Qtr. Total:	16

Third Year

<u>Autumn Quarter</u>	<u>cr</u>	<u>Winter Quarter</u>	<u>cr</u>	<u>Spring Quarter</u>	<u>cr</u>
EE 215 - Fundamentals of EE	4	EE 233 - Circuit Theory	5	EE Course	5
EE 242 - Signal Processing I	5	EE 393 - Advanced Technical Comm	4	ENGR Elective	4
ENGR 231 - Intro to Technical Comm	3	EE Course	5	EE 398 (Professional Issues)	1
EE 241 - Prog. Signal Processing	2			Approved Non-EE Elective	4
Qtr. Total:	14	Qtr. Total:	14	Qtr. Total:	14

Fourth Year

<u>Autumn Quarter</u>	<u>cr</u>	<u>Winter Quarter</u>	<u>cr</u>	<u>Spring Quarter</u>	<u>cr</u>
EE Course	5	EE Course	5	EE Course	5
EE Course	5	EE Course	5	EE Course	5
ENGR Elective	3	VLPA / I&S	5	VLPA / I&S	5
Statistics Requirement	3				
Qtr. Total:	16	Qtr. Total:	15	Qtr. Total:	15

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