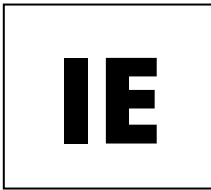


This resource is for ENGRUD students who entered the UW in AUT23 or later.



**Industrial Engineering
Graduation Requirements**
University of Washington
<https://ise.washington.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/ Analytical Geom. I-III (15cr)**

MATH 207 - Intro to Differential Equations (3cr)
[pr: MATH 125]

MATH 208 - Matrix Algebra with Applications (3cr)
[pr: MATH 126]

IND E 315 - Probability & Statistics for Engineers (3cr)
[pr: MATH 136, MATH 207, or AMATH 351]

Sciences (25cr)

◆ **CHEM 142 - General Chemistry (5cr)**

★ **CHEM 152 - General Chemistry (5cr)**
[pr: CHEM 142]

◆ **PHYS 121 - Mechanics (5cr)**
[pr: MATH 125 or MATH 134]

★ **PHYS 122 - Electromagnetism (5cr)**
[pr: MATH 125 or MATH 134; PHY 121]

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

Engineering General Education Requirements (38cr)

Written and Oral Communications:

◆ **English Composition (5cr)**

ENGR 231 - Intro to Technical Communication (3cr)

Areas of Inquiry:

Arts & Humanities – A&H (10cr)

Social Sciences - SSc (10cr)

Additional A&H or SSc (10cr)

Diversity - DIV (3cr) (may overlap with A&H or SSc)

Engineering Fundamentals (28cr)

A A 210 - Engineering Statics (4cr)
[pr: MATH 126; PHYS 121]

★ **CSE 122 - Computer Programming II (4cr)**

CEE 220 - Intro to Mechanics of Materials (4cr)
[pr: AA 210]

E E 215 - Fundamentals of Electrical Engineering (4cr)
[pr: MATH 136 or MATH 126 and MATH 207 or AMATH 351,
either of which may be taken concurrently; PHYS 122]

IND E 250 - Fundamentals of Engineering Economy (4cr)

M E 230 - Kinematics and Dynamics (4cr)
[pr: AA 210]

MSE 170 - Fundamentals of Material Science (4cr)
[pr: CHEM 142, CHEM 143, or CHEM 145]

Departmental Core (37cr)

IND E 310 - Linear and Network Programming (4cr)

IND E 311 - Stochastic Models and Decision Analysis (4cr)

IND E 316 - Design of Experiments (4cr)

IND E 321 - Statistical Quality Control (4cr)

IND E 337 - Intro to Manufacturing Systems (4cr)

IND E 338 - Simulation (4cr)

IND E 351 - Human Factors in Design (4cr)

IND E 491 - Professional Practice Seminar (1cr)

IND E 494 - Design in the Manufacturing Firm (4cr)

IND E 495 - Industrial Engineering Design (4cr)

Production Requirement (4cr)

IND E 430 - Manufacturing Scheduling and Inventory
OR
INDE 439 - Plant Layout and Material Handling

Department Electives (20-24cr)

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

- a. Standard Option
- b. Data Science Option

Free Electives

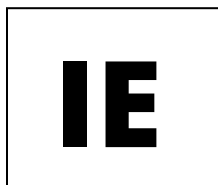
Additional coursework in any subject area not used elsewhere in degree.

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 September 2023

This resource is for ENGRUD students who entered the UW in AUT23 or later.



**Industrial Engineering
Sample Curriculum**
University of Washington
<https://ise.washington.edu>

Industrial & Systems Engineering Advising
Office: G7 ME Building, Box 352650
Seattle, WA 98195-2650
Phone: (206) 543-5041
Email: leadvise@u.washington.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, MATH 125, MATH 126; CHEM 142, PHYS 121, English Composition; ENGRUD students who are interested in IE should choose one of the following: CSE 122, 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	◆ PHYS 121 - Mechanics	5
◆ E-FIG: ENGR 101 & GEN ST 199	2	◆ English Composition	5	★ CSE 122 - Computer Programming II	4
A&H / SSc	3				
Qtr. Total:	15	Qtr. Total:	15	Qtr. Total:	14

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	IND E 250 - Engineering Economy	4
A A 210 - Engineering Statics	4	MATH 208 - Matrix Algebra with Apps	3	M E 230 - Kinematics & Dynamics	4
MATH 207 - Intro to Differential Equations	3	CEE 220 - Intro to Mechanics of Materials	4	MSE 170 - Materials Science	4
ENGR 231 - Intro to Technical Comm	3	A&H / SSc / DIV	5	IND E 315 - Prob & Stats for Engineers	3
Qtr. Total:	15	Qtr. Total:	17	Qtr. Total:	15

Third Year

<u>Autumn Quarter</u>	<u>cr</u>	<u>Winter Quarter</u>	<u>cr</u>	<u>Spring Quarter</u>	<u>cr</u>
IND E 337 - Intro to Manufacturing Sys	4	IND E 311 - Stochastic Models & Decision Analysis	4	E E 215 - Fund of Electrical Engineering	4
IND E 310 - Linear & Network Prog	4	IND E 316 - Design of Experiments	4	IND E 321 - Stat Qual Control	4
IND E 491 Seminar	1	IND E 338 - Simulation	4	IND E 351 - Human Factors	4
IND E Option/Tech Elective course	4	A&H / SSc	4	IND E Option/Tech Elective course	4
A&H / SSc	3				
Qtr. Total:	16	Qtr. Total:	16	Qtr. Total:	16

Fourth Year

<u>Autumn Quarter</u>	<u>cr</u>	<u>Winter Quarter</u>	<u>cr</u>	<u>Spring Quarter</u>	<u>cr</u>
IND E 430 or 439	4	IND E 494 - Design in the Manufacturing Firm	4	IND E 495 - Industrial Engineering Design	4
IND E Option/Tech Elective course	4	IND E Option/Tech Elective course	4	IND E Option/Tech Elective course	4
A&H / SSc	5	A&H / SSc	5	A&H / SSc / DIV	5
Qtr. Total:	14	Qtr. Total:	13	Qtr. Total:	13

◆ = Placement Requirement

★ = Pick one to satisfy placement requirements

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 September 2023