This resource is for ENGRUD students who entered the UW-Seattle in AUT25.

IndE

Industrial Engineering Degree Requirements
https://ise.washington.edu
ieadvise@u.washington.edu

ENGRUD Requirement Key:
◆ = **Placement Requirements**
★ = *Pick **one** to satisfy placement requirement*
Placement: July 1 at the end of the first year

Engineering First-year Interest Group (E-FIG)

◆ **ENGR 101 (1cr)**
GEN ST 199 (1cr)

Mathematics (24-27cr)

◆ **MATH 124, 125, 126 – Calc. w/ Analytical Geom. I-III (15cr)**

MATH 207 - Intro to Differential Equations (4cr)
[pr: MATH 125] OR AMATH 351 (3cr) [pr: MATH 125]

MATH 208 - Matrix Algebra with Applications (4cr)
OR AMATH 352 (3cr) [pr: MATH 126]

IND E 315 - Probability & Statistics for Engineers (3cr)
[pr: MATH 135, 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 124]

★ ***PHYS 122 - Electromagnetism (5cr)***
[pr: MATH 125, PHYS 121]

★ ***PHYS 123 - Waves, Light, Heat (5cr)***
[pr: MATH 126, PHYS 122]

General Education Requirements (34-40cr)

Written and Oral Communications

◆ **English Composition (5cr)**
IND E 337 - Intro. to Manufacturing Systems (4cr)
Add'l writing (3cr) (may overlap with Areas of Inquiry or DIV)

Areas of Inquiry:
Arts & Humanities - A&H (10cr)
Social Sciences - SSc (10cr)
Additional A&H or SSc (10cr)

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

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: A A 210]

E E 215 - Fundamentals of Electrical Engineering (4cr)
[pr: MATH 126, MATH 207 or AMATH 351, PHYS 122]

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

ME 230 - Kinematics and Dynamics (4cr)
[pr: A A 210]

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

Major Core Requirements (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) (W)
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)

Area A, Production Requirement (4cr)

One of the following courses:
IND E 430 - Manufacturing Scheduling and Inventory (4cr)
IND E 439 - Plant Layout and Material Handling (4cr)

Area B, Industrial Engineering Requirement (4cr)

One of the following courses:
IND E 412 - Integer and Dynamic Programming (4cr)
IND E 427 - Data Analytics for Systems Engineering (4cr)
IND E 455 - User Interface Design (4cr)

Technical Electives (16cr)

Complete 16 additional technical elective courses from the department's approved list of courses.

Total credits required for graduation: 180cr

Honors or accelerated sequences of chemistry, math and physics will satisfy degree requirements.

Updated June 2025

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Industrial Engineering

Questions? Contact ENGRUD Advising
Email: engradv@uw.edu
Office: IEB 307
Phone: (206) 543-1770

This is a sample four-year plan for Industrial Engineering to provide ENGRUDs a framework to create their individual academic plan.

Courses required to request placement for ENGRUD students: **ENGR 101; MATH 124, 125, 126; CHEM 142; PHYS 121; English Composition; choose one: CSE 122, PHYS 122, PHYS 123.**

Autumn Quarter	cr	Winter Quarter	cr	Spring Quarter	cr
◆ **MATH 124 - Calc. w/ Analytic Geom. I**		◆ **MATH 125 - Calc. w/ Analytic Geom. II**		◆ **MATH 126 - Calc. w/ Analytic Geom. III**	
◆ **CHEM 142 - General Chemistry**	5	★ ***CHEM 152 - General Chemistry***	5	◆ **PHYS 121 - Mechanics**	5
◆ **E-FIG: ENGR 101** & **GEN ST 199**	5	◆ **English Composition**	5	★ ***CSE 122 - Computer Programming II***	5
A&H / SSc	2		5		4
	3				
Qtr. Total:	**15**	Qtr. Total:	**15**	Qtr. Total:	**14**

Autumn Quarter	cr	Winter Quarter	cr	Spring Quarter	cr
PHYS 122 - Electromagnetism	5	PHYS 123 - Waves	5	IND E 250 - Engineering Ecomomy	4
A A 210 - Engineering Statics	4	MATH 208 - Matrix Algebra with Apps	4	ME 230 - Kinematics & Dynamics	4
MATH 207 - Intro to Differential Equations	4	CEE 220 - Intro to Mechanics of Materials	4	MSE 170 - Materials Science	4
A&H / SSc / Writing	3	A&H / SSc	4	IND E 315 - Prob & Stats for Engineers	3
Qtr. Total:	**16**	Qtr. Total:	**17**	Qtr. Total:	**15**

Autumn Quarter	cr	Winter Quarter	cr	Spring Quarter	cr
IND E 337 - Intro to Manufacturing Sys	4	IND E 311 - Stochastic Models & Decision Analysis	4	IND E 321 - Stat Qual Control	4
IND E 310 - Linear & Network Prog	4			IND E 351 - Human Factors	4
IND E 491 - Professional Pract Seminar	1	IND E 316 - Design of Experiments	4	IND E 412 or Technical Elective	4
E E 215 - Fund of Electrical Engineering	4	IND E 338 - Simulation	4	A&H / SSc	3
A&H / SSc	3	A&H / SSc	4		
Qtr. Total:	**16**	Qtr. Total:	**16**	Qtr. Total:	**15**

Autumn Quarter	cr	Winter Quarter	cr	Spring Quarter	cr
IND E 430 - Manu Scheduling & Inventory OR 439 - Plant Layout & Mat'l Handling	4	IND E 494 - Design in the Manufacturing Firm	4	IND E 495 - Industrial Engineering Design	4
				IND E Technical Elective	4
IND E 427 or 455 or Technical Elective	4	IND E Technical Elective	4	A&H / SSc / DIV	5
IND E Technical Elective	4	A&H / SSc	5		
A&H / SSc	3				
Qtr. Total:	**15**	Qtr. Total:	**13**	Qtr. Total:	**13**

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