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 126]
★ 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*
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