This resource is for ENGRUD students who entered the UW in AUT20 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 307 - Intro to Differential Equations (3cr)
   [pr: MATH 125]
MATH 308 - Matrix Algebra with Applications (3cr)
   [pr: MATH 126]
IND E 315 - Probability & Statistics for Engineers (3cr)
   [pr: MATH 136, MATH 307, 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 (6cr)
   [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 Knowledge:
Visual, Literary & Performing Arts - VLPA (10cr)
Individuals & Society - I&S (10cr)
VLPA or I&S (10cr)
Diversity - DIV (3cr) - (may overlap with VLPA/I&S)

Engineering Fundamentals (28cr)
A A 210 - Engineering Statics (4cr)
   [pr: MATH 126; PHYS 121]
★ CSE 142 - Computer Programming I (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 either MATH 307 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 (24cr)
IND E 316 - Design of Experiments (4cr)
IND E 337 - Intro to Manufacturing Systems (4cr)
IND E 410 - Linear & Network Programming (4cr)
IND E 411 - Stochastic Models & Decision Analysis (4cr)
IND E 494 - Design in the Manufacturing Firm (4cr)
IND E 495 - Industrial Engineering Design (4cr)

Technical Electives (37cr)
Complete a minimum of 37 credits of Technical Electives including at least one course from each of the following five categories:
- Operations Research: IND E 412 OR IND E 424
- Statistics: IND E 321 OR IND E 426
- Production/Operations: IND E 430 OR IND E 439
- Design: IND E 351 OR IND E 455
- General Engineering: A A 260 OR CSE 143
See department list of approved courses.

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 307/308/309, work with the department to confirm.

Updated September 2020
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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 ISE must take one of the one of the following: AMATH 301, CSE 142, or CSE 160.

**First Year**

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<td>◆ MATH 124 - Calc w Analytic Geom I</td>
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<td>◆ MATH 125 - Calc w Analytic Geom II</td>
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<td>◆ MATH 126 - Calc w Analytic Geom III</td>
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<td>◆ CHEM 142 - General Chemistry</td>
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<td>CHEM 152 - General Chemistry</td>
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<td>◆ PHYS 121 - Mechanics</td>
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<td>VLPA / I&amp;S</td>
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<td>◆ English Composition</td>
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<td>★ CSE 142 – Computer Programming I</td>
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**Second Year**

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<tr>
<td>PHYS 122 - Electromagnetism</td>
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<td>PHYS 123 - Waves</td>
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<td>IND E 250 - Engineering Economy</td>
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<td>A A 210 - Engineering Statics</td>
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<td>MATH 307 - Intro to Differential Equations</td>
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<td>CEE 220 - Intro to Mechanics of Materials</td>
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<td>MSE 170 - Materials Science</td>
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<td>ENGR 231 - Intro to Technical Comm</td>
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<td>IND E Technical Elective</td>
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<td>IND E 315 - Prob &amp; Stats for Engineers</td>
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<td>IND E 494 - Design in the Manufacturing Firm</td>
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<td>IND E 495 - Industrial Engineering Design</td>
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