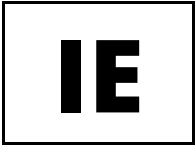


This resource is for ENGRUD students who entered the UW in AUT24 or later.



**Industrial Engineering  
Graduation Requirements**  
University of Washington  
<https://ise.washington.edu>

### ENGRUD Requirement Sheet – Key:

◆ = Placement Requirements;

★ = *Pick one to satisfy placement requirement*

**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] OR AMATH 351 (3cr)

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

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]

#### **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) (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:

<https://ise.washington.edu/students/BSIE/tech-electives>

#### **Total credits required for graduation: 180cr**

*Honors or accelerated sequences of chemistry, math and physics will satisfy the placement requirements.*

Updated September 2024

This resource is for ENGRUD students who entered the UW in AUT24 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](mailto: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 & GEN ST 199; MATH 124, 125, 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:	<b>15</b>	Qtr. Total:	<b>15</b>	Qtr. Total:	<b>14</b>

**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	ME 230 - Kinematics & Dynamics	4
MATH 207 - Intro to Differential Equations	3	CEE 220 - Intro to Mechanics of Materials	4	MSE 170 - Materials Science	4
Writing	3	A&H / SSc / DIV	5	IND E 315 - Prob & Stats for Engineers	3
Qtr. Total:	<b>15</b>	Qtr. Total:	<b>17</b>	Qtr. Total:	<b>15</b>

**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 - Professional Pract 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:	<b>16</b>	Qtr. Total:	<b>16</b>	Qtr. Total:	<b>16</b>

**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 - 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 Option/Tech Elective course	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 / DIV	5
A&H / SSc	3				
Qtr. Total:	<b>15</b>	Qtr. Total:	<b>13</b>	Qtr. Total:	<b>13</b>

◆ = Placement Requirement

★ = Pick one to satisfy placement requirements

*Honors or accelerated sequences of chemistry, math and physics will satisfy the placement requirements.*

*Updated September 2024*