

IndE

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

ENGRUD Requirement Sheet – Key

◆ = Placement Requirements

★ = Pick two to satisfy placement requirements

Placement Periods

Placement 1 = July 1 at end of first year

Placement 2 = January 15 of second year

Placement 3 = July 1 at end of second year

Mathematics (24cr)	
◆ MATH 124, 125, 126 - Calculus with Analytical Geometry I, II, III (15cr)	<input type="checkbox"/>
MATH 307 - Introduction to Differential Equations (3cr) [pr: MATH 125]	<input type="checkbox"/>
MATH 308 - Matrix Algebra with Applications (3cr) [pr: MATH 126]	<input type="checkbox"/>
IND E 315 - Probability & Statistics for Engineers (3cr) [pr: MATH 136, MATH 307, or AMATH 351]	<input type="checkbox"/>
Sciences (25cr)	
★ CHEM 142 - General Chemistry (5cr)	<input type="checkbox"/>
★ CHEM 152 - General Chemistry (5cr)	<input type="checkbox"/>
◆ PHYS 121 - Mechanics (5cr) [pr: MATH 124 or MATH 134]	<input type="checkbox"/>
★ PHYS 122 - Electromagnetism (5cr) [pr: MATH 125 or MATH 134; PHYS 121]	<input type="checkbox"/>
★ PHYS 123 - Waves (5cr) [pr: MATH 126 or MATH 134; PHYS 122]	<input type="checkbox"/>
Engineering General Education Requirements (38cr)	
<i>Written and Oral Communication (8cr):</i>	
◆ English Composition (5cr)	<input type="checkbox"/>
ENGR 231 - Intro to Technical Communication (3cr)	<input type="checkbox"/>
<i>Areas of Knowledge:</i>	
Visual, Literary & Performing Arts - VLPA (10cr)	<input type="checkbox"/>
Individuals & Society - I&S (10cr)	<input type="checkbox"/>
VLPA or I&S (10cr)	<input type="checkbox"/>
Diversity - DIV (3cr) - (may overlap with VLPA/I&S)	<input type="checkbox"/>
Engineering Fundamentals (28cr)	
AA 210 - Engineering Statics (4cr) [pr: MATH 126; PHYS 121]	<input type="checkbox"/>
CEE 220 - Introduction to Mechanics of Materials (4cr) [pr: AA 210]	<input type="checkbox"/>
ME 230 - Kinematics and Dynamics (4cr) [pr: AA 210]	<input type="checkbox"/>
CSE 142 - Computer Programming I (4cr)	<input type="checkbox"/>
MSE 170 - Fundamentals of Material Science (4cr) [pr: CHEM 152]	<input type="checkbox"/>
EE 215 - Fundamentals of Electrical Engineering (4cr) [pr: either MATH 136, or MATH 126 & either MATH 307 or AMATH 351, either of which may be taken concurrently; PHYS 122]	<input type="checkbox"/>
IND E 250 - Fundamentals of Engineering Economy (4cr)	<input type="checkbox"/>

Departmental Core (24cr)	
IND E 316 - Design of Experiments and Regression Analysis (4cr)	<input type="checkbox"/>
IND E 337 - Intro to Manufacturing Systems (4cr)	<input type="checkbox"/>
IND E 410 - Linear & Network Programming (4cr)	<input type="checkbox"/>
IND E 411 - Stochastic Models & Decision Analysis (4cr)	<input type="checkbox"/>
IND E 494 - Design in the Manufacturing Firm (4cr)	<input type="checkbox"/>
IND E 495 - Industrial Engineering Design (4cr)	<input type="checkbox"/>
Technical Electives (37cr)	
Complete a minimum of 37 credits including AT LEAST one course from EACH of the following 5 categories:	
-Operations Research: IND E 412, IND E 424	
-Statistics: IND E 321, IND E 426	
-Production/Operations: IND E 430, IND E 439	<input type="checkbox"/>
-Design: IND E 351, IND E 455	
-General Engineering: AA 260 or CSE 143	
<i>Note: See IND E adviser for additional technical electives on approved list.</i>	
Free Electives (4cr)	
Additional credits to meet the 180 total required for the baccalaureate degree.	<input type="checkbox"/>
Total credits required for graduation: 180cr	

Honors or accelerated sequences of math and chemistry can satisfy some of the above requirements, see department website for specifics. AMATH 351/352/353 are alternatives to Math 307/308/309.

This is a sample four-year plan for ENGRUD students. 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: **MATH 124, MATH 125, MATH 126; PHYS 121 and two additional courses from CHEM 142, CHEM 152, PHYS 122 or PHYS 123; 5 credits of English Composition.**

	Autumn Quarter	Cr	Winter Quarter	Cr	Spring Quarter	Cr
Freshman	◆ MATH 124 - Calculus with Analytical Geometry I	5	◆ MATH 125 - Calculus with Analytical Geometry II	5	◆ MATH 126 - Calculus with Analytical Geometry III	5
	★ CHEM 142 - General Chemistry	5	★ CHEM 152 - General Chemistry	5	◆ PHYS 121 - Mechanics	5
	VLPA/I&S	5	◆ English Composition	5	CSE 142 - Computer Programming I	4
	E-FIG: ENGR 101 & GEN ST 199	2				
	Qtr. Total:	17	Qtr. Total:	15	Qtr. Total:	14
Sophomore	Autumn Quarter	Cr	Winter Quarter	Cr	Spring Quarter	Cr
	MATH 307 - Introduction to Differential Equations	3	MATH 308 - Matrix Algebra with Applications	3	IND E 250 - Fundamentals of Engineering Economy	4
	★ PHYS 122 - Electromagnetism	5	★ PHYS 123 - Waves & Lab III	5	MSE 170 - Materials Science	4
	AA 210 - Engineering Statics	4	CEE 220 - Introduction to Mechanics of Materials	4	ME 230 - Kinematics & Dynamics	4
	VLPA/I&S	5	VLPA/I&S	5	VLPA/I&S	5
Qtr. Total:	17	Qtr. Total:	17	Qtr. Total:	17	
Junior	Autumn Quarter	Cr	Winter Quarter	Cr	Spring Quarter	Cr
	IND E 337 - Intro to Manufacturing Systems	4	IND E 411 - Stochastic Models & Decision Analysis	4	EE 215 - Fundamentals of Electrical Engineering	4
	IND E 410 - Linear & Network Programming	4	IND E 316 - Design of Experiments and Regression Analysis	4	IND E Technical Elective	3
	IND E Technical Elective	4	ENGR 231 - Intro to Technical Communication	3	IND E Technical Elective	4
	IND E 315 - Probability & Statistics for Engineers	3	IND E Technical Elective	4	IND E Technical Elective	4
Qtr. Total:	15	Qtr. Total:	15	Qtr. Total:	15	
Senior	Autumn Quarter	Cr	Winter Quarter	Cr	Spring Quarter	Cr
	IND E Technical Elective	4	IND E 494 - Design in the Manufacturing Firm	4	IND E 495 - Industrial Engineering Design	4
	IND E Technical Elective	4	Firm IND E Technical Elective	4	IND E Technical Elective	3
	IND E Technical Elective	3	VLPA/I&S/DIV	5	VLPA/I&S	5
	Elective	2				
Qtr. Total:	15	Qtr. Total:	13	Qtr. Total:	12	

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