



**Mechanical Engineering  
Graduation Requirements**  
University of Washington  
<https://me.washington.edu>

**ENGRUD Requirement Sheet – Key**

- ◆ = Placement Requirements
- ★ = *Pick two to satisfy placement requirements*

**Placement Periods**

- Placement 1 = July 1 of first year
- Placement 2 = January 15 of second year

Mathematics (24cr)	
◆ <b>MATH 124, 125, 126 - Calculus with Analytical Geometry I, II, III (15cr)</b>	<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"/>
MATH 309 - Linear Analysis (3cr) [pr: MATH 307 and MATH 308 or MATH 136] <b>OR</b> MATH 324 – Advanced Multivariable Calculus (3cr) [pr: MATH 126 or MATH 136]	<input type="checkbox"/>
Sciences (25cr)	
★ <b>CHEM 142 - General Chemistry (5cr)</b>	<input type="checkbox"/>
★ <b>CHEM 152 - General Chemistry (5cr)</b> [pr: CHEM 142, CHEM 143, or CHEM 145]	<input type="checkbox"/>
◆ <b>PHYS 121 - Mechanics (5cr)</b> [pr: MATH 124, or MATH 134]	<input type="checkbox"/>
★ <b>PHYS 122 - Electromagnetism (5cr)</b> [pr: MATH 125 or MATH 134; PHYS 122]	<input type="checkbox"/>
★ <b>PHYS 123 - Waves (5cr)</b> [pr: MATH 126 or MATH 134; PHYS 122]	<input type="checkbox"/>
Engineering General Education Requirements (36cr)	
<b>Written and Oral Communication (12cr):</b>	
◆ <b>English Composition (5cr)</b>	<input type="checkbox"/>
ENGR 231 - Into to Technical Communication (3cr)	<input type="checkbox"/>
Add'l Composition or Writing-W (4cr) - ME 354	<input type="checkbox"/>
<b>Areas of Knowledge:</b>	
Visual, Literary & Performing Arts-VLPA (10cr) - ME 123	<input type="checkbox"/>
Individuals & Society-I&S (10cr)	<input type="checkbox"/>
VLPA or I&S (4cr)	<input type="checkbox"/>
Diversity - DIV (3cr) – (may overlap with VLPA/I&S)	<input type="checkbox"/>

Engineering Fundamentals (31-32cr)	
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"/>
AMATH 301 - Beginning Scientific Computing (4cr) [pr. Either MATH 125, Q SCI 292, or MATH 135]	<input type="checkbox"/>
ME 123 - Introduction to Visualization and Computer-Aided Design (4cr) [pr. MATH 125 or MATH 135]	<input type="checkbox"/>
MSE 170 - Fundamentals of Materials Science (4cr) [pr. CHEM 142, CHEM 143, or CHEM 145]	<input type="checkbox"/>
EE 215 - Fundamentals of Electrical Engineering (4cr) [pr. MATH 136, or MATH 126 and MATH 307 or AMATH 351, either of which may be taken concurrently; PHYS 122]	<input type="checkbox"/>
IND E 315 (3cr) OR STAT 390 (4cr) OR AP STATS (score 3, 4, 5) by petition	<input type="checkbox"/>
Departmental Core (45cr)	
ME 323 - Engineering Thermodynamics (5cr)	<input type="checkbox"/>
ME 331 - Introduction to Heat Transfer (4cr)	<input type="checkbox"/>
ME 333 - Introduction to Fluid Mechanics (5cr)	<input type="checkbox"/>
ME 354 - Mechanics of Materials Laboratory (5cr)	<input type="checkbox"/>
ME 355 - Introduction to Manufacturing Processes (4cr)	<input type="checkbox"/>
ME 356 - Machine Design Analysis (4cr)	<input type="checkbox"/>
ME 373 - Introduction to System Dynamics (5cr)	<input type="checkbox"/>
ME 374 - Systems Dynamic Analysis and Design (5cr)	<input type="checkbox"/>
ME 395 - Introduction to Mechanical Design (4cr)	<input type="checkbox"/>
ME 495 – Mechanical Engineering Design (4cr)	<input type="checkbox"/>
Mechanical Option Courses (19cr)	
See ME Advising Guide online for list of courses.	<input type="checkbox"/>
Free Electives (4cr)	
Additional coursework in any subject area not used elsewhere in degree.	<input type="checkbox"/>
<b>Total credits required for graduation: 180cr</b>	

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.



**Mechanical Engineering Sample Curriculum**  
 University of Washington  
<https://me.washington.edu>

**Mechanical Engineering Advising**  
 Office: 143 MEB, Box 352600  
 Seattle, WA 98195-2600  
 Phone: (206) 543-5090  
 Email: meadvise@uw.edu

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	VLPA/I&S	5	◆ English Composition	5
	E-FIG: ENGR 101 & GEN ST 199	2				
	<b>Qtr. Total:</b>	<b>17</b>	<b>Qtr. Total:</b>	<b>15</b>	<b>Qtr. Total:</b>	<b>15</b>
Sophomore	Autumn Quarter	Cr	Winter Quarter	Cr	Spring Quarter	Cr
	AA 210 – Engineering Statics	4	ME 230 – Kinematics & Dynamics	4	CEE 220 – Mechanics of Materials	4
	★ PHYS 122 – Electromagnetism	5	MATH 308 – Matrix Algebra with Applications	3	MATH 324 – Advanced Multivariable Calculus	3
	ME 123 – Intro to Visualization. & CAD (VLPA)	4	★ PHYS 123 – Waves	5	OR MATH 309 – Linear Analysis	
	MATH 307 – Introduction to Differential Equations	3	Free elective	2	MSE 170 – Fundamentals of Material Science	4
					ENGR 231 – Intro to Technical Communication	3
<b>Qtr. Total:</b>	<b>16</b>	<b>Qtr. Total:</b>	<b>14</b>	<b>Qtr. Total:</b>	<b>14</b>	
Junior	Autumn Quarter	Cr	Winter Quarter	Cr	Spring Quarter	Cr
	ME 323 – Engineering Thermodynamics	5	ME 333 – Intro to Fluid Mechanics	5	ME 355 – Intro to Manufacturing Processes	4
	AMATH 301 – Beginning Scientific Computing	4	ME 354 – Mechanics of Materials Lab (W)	5	ME 374 – System Dynamics Analysis and Design	5
	EE 215 – Fundamentals of Electrical Engineering	4	ME 373 – Intro to System Dynamics	5	IND E 315 – Probability & Statistics for Engineers	3
	VLPA/I&S	3			ME Senior Elective	4
<b>Qtr. Total:</b>	<b>16</b>	<b>Qtr. Total:</b>	<b>15</b>	<b>Qtr. Total:</b>	<b>16</b>	
Senior	Autumn Quarter	Cr	Winter Quarter	Cr	Spring Quarter	Cr
	ME 331 – Intro to Heat Transfer	4	ME 356 – Machine Design Analysis	4	ME 495 – Mechanical Engineering Design	4
	ME 395 – Intro to Mechanical Design	4	ME Senior Elective	4	ME Senior Elective	4
	ME Senior Elective	3	ME Senior Elective	4	VLPA/I&S	4
	VLPA/I&S	3			Free elective	2
<b>Qtr. Total:</b>	<b>14</b>	<b>Qtr. Total:</b>	<b>12</b>	<b>Qtr. Total:</b>	<b>14</b>	

◆ = Placement Requirement; ★ = Pick two to satisfy placement requirements

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.