

This resource is for ENGRUD students who entered the UW in AUT20 or later.



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

ENGRUD Requirement Sheet – Key:

◆ = Placement Requirements;

★ = Pick **one** to satisfy placement requirements

Placement: July 1 at the end of first year

◆ **E-FIG: ENGR 101 and GEN ST 199 (2cr)**

Mathematics (24cr)

◆ **MATH 124, 125, 126 - Calc w Analytic Geom I-III (15cr)**

MATH 307 - Intro to Differential Equations (3cr)
[pr: MATH 125] OR AMATH 351

MATH 308 - Matrix Algebra with Applications (3cr)
[pr: MATH 126] OR AMATH 352

MATH 309 - Linear Analysis (3cr)
[pr: MATH 307 and MATH 308, or MATH 136]
OR AMATH 353
OR MATH 324

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 (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 (32cr)

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)

Additional VLPA or I&S (4cr)

Diversity - DIV (3cr) - (may overlap with VLPA/I&S)

Engineering Fundamentals (31-32cr)

A A 210 - Engineering Statics (4cr)
[pr: MATH 126; PHYS 121]

★ **AMATH 301 - Beginning Scientific Computing (4cr)**
[pr: Either MATH 125, Q SCI 292, or MATH 135]

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 315 - Probability & Stats for Engineers (3cr)
OR STAT 390 (4cr) OR AP STATS (score 3, 4, 5) by petition

Engineering Fundamentals (31-32cr) Continued

★ **M E 123 - Intro to Vis. and Computer-Aided Design (4cr)**
[pr: MATH 125 or MATH 135]

M E 230 - Kinematics and Dynamics (4cr)
[pr: A A 210]

★ **MSE 170 - Fundamentals of Materials Science (4cr)**
[pr: CHEM 142, CHEM 143, or CHEM 145]

Departmental Core (45cr)

M E 323 - Engineering Thermodynamics (5cr)

M E 331 - Intro to Heat Transfer (4cr)

M E 333 - Intro to Fluid Mechanics (5cr)

M E 354 - Mechanics of Materials Lab (5cr)

M E 355 - Intro to Manufacturing Processes (4cr)

M E 356 - Machine Design Analysis (4cr)

M E 373 - Intro to System Dynamics (5cr)

M E 374 - Systems Dynamic Analysis and Design (5cr)

M E 395 - Intro to Mechanical Design (4cr)

M E 495 - Mechanical Engineering Design (4cr)

Mechanical Engineering Option Courses (19-26cr)

Complete one option below. See department for list of approved courses.

- a. Standard Option
- b. Mechatronics Option
- c. Nanoscience and Molecular Engineering Option
- d. Biomechanics Option

Free Electives (2cr)

Additional coursework in any subject area not used elsewhere 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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**Mechanical Engineering
Sample Curriculum**
University of Washington
<https://me.washington.edu>

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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, 125, 126; CHEM 142; PHYS 121; English Composition; ENGRUD students who are interested ME should choose one of the following: AMATH 301, CHEM 152, ME 123, MSE 170, 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
VLPA / I&S	5	◆ English Composition	5	VLPA / I&S	5
◆ E-FIG: ENGR 101 & GEN ST 199	2				
Qtr. Total:	17	Qtr. Total:	15	Qtr. Total:	15

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	CEE 220 - Mechanics of Materials	4
A A 210 - Engineering Statics	4	MATH 308 - Matrix Algebra with Apps	3	MATH 309 - Linear Analysis	3
M E 123 - Intro to Visualization & CAD	4	M E 230 - Kinematics & Dynamics	4	MSE 170 - Fundamentals of Material Sci	4
MATH 307 - Intro to Differential Equations	3	Free Elective	2	ENGR 231 - Intro to Technical Comm	3
Qtr. Total:	16	Qtr. Total:	14	Qtr. Total:	14

Third Year

<u>Autumn Quarter</u>	<u>cr</u>	<u>Winter Quarter</u>	<u>cr</u>	<u>Spring Quarter</u>	<u>cr</u>
M E 323 - Engineering Thermodynamics	5	M E 333 - Intro to Fluid Mechanics	5	M E 355 - Intro to Manufacturing Proc.	4
AMATH 301 - Beg Sci Computing	4	M E 354 - Mechanics of Materials Lab (W)	5	M E 374 - Sys Dynamic Analysis & Design	5
E E 215 - Fund of Electrical Engineering	4	M E 373 - Intro to System Dynamics	5	IND E 315 - Prob & Stats for Engineers	3
VLPA / I&S	3			M E Option Elective	4
Qtr. Total:	16	Qtr. Total:	15	Qtr. Total:	16

Fourth Year

<u>Autumn Quarter</u>	<u>cr</u>	<u>Winter Quarter</u>	<u>cr</u>	<u>Spring Quarter</u>	<u>cr</u>
M E 331 - Intro to Heat Transfer	4	M E 356 - Machine Design Analysis	4	M E 495 - Mechanical Engineering Design	4
M E 395 - Intro to Mechanical Design	4	M E Option Elective	4	M E Option Elective	4
M E Option Elective	3	M E Option Elective	4	VLPA / I&S	5
VLPA / I&S / DIV	3	VLPA / I&S	3		
Qtr. Total:	14	Qtr. Total:	15	Qtr. Total:	13

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