

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

ME

**Mechanical Engineering
Graduation Requirements**
University of Washington
<https://me.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 (27-29cr)

◆ **MATH 124, 125, 126 - Calc w/Analytic 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)

One course from the following: MATH 209 (3cr), MATH 224 (3cr), AMATH 353 (3cr)

IND E 315 - Prob. & Stats. for Engineers (3cr) [pr: MATH 207]
OR STAT 290 - Advanced Placement (AP) Statistics (5cr)
OR STAT 390 - Statistical Methods in Engr & Science (4cr)

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; PHY 121]

★ **PHYS 123 - Waves (5cr)**
[pr: MATH 126; PHYS 122]

General Education Requirements (29-34cr)

Written and Oral Communications:

◆ **English Composition (5cr)**

Writing (7cr) - met by coursework in the major

Areas of Inquiry:

Arts & Humanities - A&H (10cr) - 4cr met by M E 123

Social Sciences - SSc (10cr)

Additional A&H or SSc (4cr)

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]

★ **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 126 and either MATH 207 or AMATH 351, either of which may be taken concurrently; PHYS 122]

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

Engineering Fundamentals (cont'd)

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 (46cr)

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) (W)

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)

One course from:

- M E 493 - Introduction to Capstone Design (3cr) (W)
- M E 414/E E 414 Engineering Innovation in Health (3cr)

M E 494 - Capstone Design I (3cr)

M E 495 - Capstone Design II (3cr)

Mechanical Engineering Option (19cr)

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

- a. Standard Option
- b. Mechatronics Option
- c. Biomechanics Option

Free Electives (~4cr)

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.

Updated September 2024

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**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 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 in 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
◆ E-FIG: ENGR 101 & GEN ST 199	2	◆ English Composition	5	A&H / SSc / DIV	5
A&H / SSc	3				
Qtr. Total:	15	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 208 - Matrix Algebra with Apps	3	MATH 209 or Math 224	3
M E 123 - Intro to Visualization & CAD	4	M E 230 - Kinematics & Dynamics	4	MSE 170 - Fundamentals of Material Sci	4
MATH 207 - Intro to Differential Equations	3	Free Elective	4	A&H / SSc	3
Qtr. Total:	16	Qtr. Total:	16	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
A&H / SSc	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 - Capstone Design II	3
M E 493 - Intro to Capstone Design (W)	3	M E 494 - Capstone Design I	3	M E Option Elective	4
M E Option Elective	3	M E Option Elective	4	A&H / SSc	3-5
A&H / SSc	3-5	M E Option Elective	4		
Qtr. Total:	14	Qtr. Total:	15	Qtr. Total:	13

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