

**MECHANICAL ENGINEERING CURRICULUM**  
**4-Year Program (For students entering in Fall 2017)**

Student:

ID:

Advisor:

1st Year – FALL

ENG 101	College Composition (3 cr.)	_____
MAT 126	Calculus I (4 cr.)	_____
MEE 101	Intro to Mech. Eng. (1 cr.)	_____
MEE 120	Eng. Graphics & CAD (2 cr.)	_____
PHY 121	Physics for Eng. & Sci. I (4 cr.)	_____
_____	HVSC Elective	_____

1st Year – SPRING

MAT 127	Calculus II (4 cr.)	_____
MEE 125*	Computational Tools for MEs (3 cr.)	_____
MEE 150**	Statics (3 cr.)	_____
PHY 122	Physics for Eng. & Sci. II (4 cr.)	_____
_____	HVSC Elective	_____
*COS 220 or ECE 177 may substitute for MEE 125		

2nd Year – FALL

CHY 121/3	Intro to Chemistry/Lab (4 cr.)	____/____
or CHY 131/3	Chemistry for Engineer/Lab	____/____
MAT 228	Calculus III (4 cr.)	_____
MEE 230**	Thermodynamics I (3 cr.)	_____
MEE 251**	Strength of Materials (3 cr.)	_____
_____	HVSC Elective	_____

2nd Year – SPRING

ECE 209	Fund of Electric Circuits (3 cr.)	_____
MAT 258	Diff. Eq. & Lin. Algebra (4 cr.)	_____
MEE 231	Thermodynamics II (3 cr.)	_____
MEE 270**	Dynamics (3 cr.)	_____
_____	Basic Science Elective (4 cr.)	_____

3rd Year – FALL

MEE 360	Fluid Mechanics (3 cr.)	_____
MEE 370	Controls (3 cr.)	_____
MEE 380	Design I (3 cr.)	_____
STS 332	Statistics for Engineers (3 cr.)	_____
ENG 320	Tech. Comm. for Engineering	_____

3rd Year – SPRING

MEE 320	Materials (3 cr.)	_____
MEE 341	Mechanical Lab I (3 cr.)	_____
MEE 381	Design II (3 cr.)	_____
MEE 456	Intro to Finite Elements (3 cr.)	_____
MEE 471	Mechanical Vibrations (3 cr.)	_____

4th Year – FALL

MEE 432	Heat Transfer (3 cr.)	_____
MEE 442	Mechanical Lab II (2 cr.)	_____
MEE 487	Capstone Design I (4 cr.)	_____
_____	MEE Technical Elective (3 cr.)	_____
_____	MEE Technical Elective (3 cr.)	_____

4th Year – SPRING

MEE 443	Mech. Lab. III (2 cr.)	_____
MEE 488	Capstone Design II (3 cr.)	_____
_____	MEE Technical Elective (3 cr.)	_____
_____	HVSC Elective	_____
_____	HVSC Elective	_____

**Basic Science Elective (4 cr.)**

(See backside of this sheet for list of appropriate courses)

Course	Grade

A fourth MEE Technical Elective may be taken instead of the Basic Science Elective.

**MEE Technical Electives (9 cr.)**

(See backside of this sheet for list of MEE technical electives)

Course	Grade

	Course	HVSC credits	Grade	<b>Human Values and Social Context (HVSC) areas (18 cr)</b>					<b>Ethics</b> (not part of HVSC)
				Western Cultural Tradition	Social Contexts & Institutions	Cultural Diversity & International Perspectives	Population & Environment	Artistic & Creative Expression	
1.	ENG 320	3			<b>x</b>				
2.									
3.									
4.									
5.									
6.									
(if needed) 7.									
(if needed) 8.									

Students must complete 18 credits in the HVSC areas, and each of the 5 HVSC areas must be satisfied at least once. Students must also take a course that satisfies the Ethics requirement. Note that some courses satisfy more than one category (e.g. Ethics and an HVSC area).

\*\* Students must earn a “C” or better in MEE 150, MEE 230, MEE 251 and MEE 270 in order to use them as prerequisites.

## BASIC SCIENCE ELECTIVES (one required - 4 cr.)

AST 109 & 110 or AST 215 & lab	Intro. to Astronomy or General Astronomy I, with Laboratory
BIO 100	Basic Biology
BIO 208	Anatomy and Physiology
BIO 326	General Entomology
BMB 300 & 305	General Microbiology, with Laboratory
CHY 122 & 124	The Molecular Basis of Chemical Change, with Laboratory
ERS 101	Introduction to Geology
ERS 102**	Environmental Geology of Maine
ERS 210 & 211	Geology Applied to Engineering, with Laboratory
ERS 240	The Atmosphere
PHY 223 & 236	Special Relativity/Introductory Quantum Physics

\*\* Satisfies the Population & Environment requirement, but cannot be counted as both a Basic Science Elective and a HVSC Elective.

<b>MEE Technical Electives</b>	<b>Prerequisites</b>
MEE 433 Solar-Thermal Engineering	MEE 230
MEE 434 Thermodynamic Design of Engines	MEE 231
MEE 441 Manufacturing and Testing of Composites	MEE 251
MEE 444 Robot Dynamics and Control	MEE 270 <sup>C</sup> , MEE 380
MEE 445 Aeronautics	MAT 258, MEE 270 <sup>C</sup> , MEE 125/ECE 177/COS 220
MEE 446 Astronautics	MAT 258, MEE 270 <sup>C</sup> , MEE 125/ECE 177/COS 220
MEE 448 Fixed Wing Aircraft Design	MEE 120, MEE 251 <sup>C</sup> , MEE 270 <sup>C</sup> , MEE 360
MEE 450 Mechanics of Composite Materials	MEE 251 <sup>C</sup>
MEE 452 Aircraft and Automobile Structures	MEE 251 <sup>C</sup>
MEE 453 Experimental Mechanics	MEE 251 <sup>C</sup>
MEE 455 Advanced Strength of Materials	MEE 251 <sup>C</sup>
MEE 459 Engineering Optimization	MAT 228, MAT 258
MEE 462 Fluid Mechanics II	MEE 360
MEE 463 Applied Computational Fluid Dynamics	MEE 360
MEE 475 Fuel Cell Science and Technology	MEE 230 <sup>C</sup> , CHY 121
MEE 480 Wind Energy Engineering	MAT 258, MEE 251 <sup>C</sup> , Corequisite MEE 360
MEE 483 Turbomachine Design	MEE 230 <sup>C</sup> , MEE 360
MEE 484 Power Plant Design and Engineering	MEE 230 <sup>C</sup> , MEE 231
MEE 486 Refrig. and Air Cond. System Design	MEE 231
MEE 489 Offshore Floating System Design	MEE 360, MEE 380
MEE 490 Modern Control Theory and Applications	MEE 370

- 400 level courses offered by other engineering programs may, with MEE Department approval, be counted as a MEE Technical Elective.
- 500 level courses in MEE or other engineering programs may, with instructor and MEE Department approval, be counted as a MEE Technical Elective.