

# MECHANICAL ENGINEERING (STANDARD), BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Minimum Total Credit Hours: 123

Overall GPA - Combined and OU: 2.00

Major GPA - Combined and OU: 2.00

Curriculum GPA - Combined and OU: 2.00

Program Code: B675

In order to progress in your curriculum in the Gallogly College of Engineering, and as a specific graduation requirement, a grade of C or better is required in each course in the curriculum, including all prerequisite courses.

Two college-level courses in a single foreign language are required; this may be satisfied by successful completion of 2 years in a single foreign language in high school. Students who must take foreign language at the University will have an additional 6-10 hours of coursework.

In order to progress into 2nd year courses in AME, students must successfully complete (grade C or better) MATH 1914; MATH 2924; PHYS 2514 and CHEM 1315 with 3.0 Combined Retention GPA, and possess a minimum 3.0 Combined Retention GPA in 24 or more credit hours. AP credit is acceptable for any of these required courses.

Course	Title	Credit Hours
<b>Freshman</b>		
<b>First Semester</b>		
ENGL 1113	Principles of English Composition (Core I)	3
CHEM 1315	General Chemistry <sup>1</sup>	5
MATH 1914	Differential and Integral Calculus I (Core I) <sup>2</sup>	4
ENGR 1411	Freshman Engineering Experience <sup>3</sup>	1
HIST 1483 or HIST 1493	United States, 1492 to 1865 (Core IV) or United States, 1865 to the Present	3
Credit Hours		16
<b>Second Semester</b>		
ENGL 1213 or EXPO 1213	Principles of English Composition (Core I) or Expository Writing	3
MATH 2924	Differential and Integral Calculus II <sup>2</sup>	4
PHYS 2514	General Physics for Engineering and Science Majors (Core II)	4
P SC 1113	American Federal Government (Core III)	3
Credit Hours		14
<b>Sophomore</b>		
<b>First Semester</b>		
MATH 2934	Differential and Integral Calculus III <sup>2</sup>	4
PHYS 2524	General Physics for Engineering and Science Majors (Core II)	4
AME 2113	Statics <sup>4</sup>	3
AME 2213	Thermodynamics	3

AME 2402	Engineering Computing	2
Credit Hours		16
<b>Second Semester</b>		
MATH 3113	Introduction to Ordinary Differential Equations	3
AME 2303	Materials, Design and Manufacturing Processes	3
AME 2533	Dynamics	3
ENGR 2431	Electrical Circuits	1
ENGR 2531	Electrical Circuits II	1
ENGR 3431	Electromechanical Systems	1
Approved Elective: Social Science (Core III) <sup>5</sup>		3
Credit Hours		15
<b>Junior</b>		
<b>First Semester</b>		
AME 3112	Solid Mechanics Lab	2
AME 3143	Solid Mechanics	3
AME 3153	Fluid Mechanics	3
AME 3723	Numerical Methods For Engineering Computation	3
ENGR 2002	Professional Development	2
Approved Technical Elective <sup>6</sup>		3
Credit Hours		16
<b>Second Semester</b>		
AME 3103	Interactive Engineering Design Simulation	3
AME 3122	Heat Transfer and Fluid Mechanics Lab	2
AME 3173	Heat Transfer	3
AME 3353	Design of Mechanical Components	3
ENGL 3153	Technical Writing	3
Approved Technical Elective <sup>6</sup>		3
Credit Hours		17
<b>Senior</b>		
<b>First Semester</b>		
PHYS 3223	Modern Physics for Engineers	3
AME 3363	Design of Thermal-Fluid Systems	3
AME 4163	Principles of Engineering Design	3
Approved Engineering Science Elective <sup>6</sup>		3
Approved Experimental Elective <sup>6</sup>		2
Credit Hours		14
<b>Second Semester</b>		
AME 4553	Design Practicum (Capstone)	3
COMM 3513	Intercultural Communication (or an advisor approved substitution) (Western Civ. & Culture - Core IV) <sup>5</sup>	3
ANTH 4623	Approaches to Cross-Cultural Human Problems ((or an advisor-approved substitution) (Non-Western Culture - Core IV) <sup>5</sup>	3
Approved Engineering Science Elective <sup>6</sup>		3
Approved Elective: Artistic Forms (Core IV) <sup>5</sup>		3
Credit Hours		15
Total Credit Hours		123

- <sup>1</sup> CHEM 1315 can be substituted with CHEM 1335 (Fall only).
- <sup>2</sup> MATH 1823, MATH 2423, MATH 2433, and MATH 2443 sequence can be substituted for MATH 1914, MATH 2924, and MATH 2934.
- <sup>3</sup> Engineering transfer students may take ENGR 3511 in place of ENGR 1411.
- <sup>4</sup> AME courses are sequential and usually offered only in the semester shown. Note prerequisites.
- <sup>5</sup> To be chosen from the University-Wide General Education Approved Course List. Three of these 12 hours must be upper-division (3000-4000). See list in the Class Schedule.
- <sup>6</sup> A list of Technical, Experimental, and Engineering Science electives is available in the AME Office, FH 212.

Courses designated as Core I, II, III, IV, or Capstone are part of the General Education curriculum. Students must complete a minimum of 40 hours of General Education courses, chosen from the approved list.