

REQUIREMENTS FOR THE BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

GALLOGLY COLLEGE OF ENGINEERING

THE UNIVERSITY OF OKLAHOMA

Academic Year	General Requirements	Program
For Students Entering the Oklahoma State System for Higher Education Summer 2019 through Spring 2020	Minimum Total Credit Hours 133 Minimum Retention/Graduation Grade Point Averages: Overall - Combined and OU 2.00 Major - Combined and OU 2.00	Mechanical Engineering (Premedical Option) B676 Bachelor of Science in Mechanical Engineering

OU encourages students to complete at least 34 hours of applicable coursework each year to have the opportunity to graduate in 4 years.

Accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>

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. AME courses are sequential and usually offered only in the semester shown; note prerequisites.

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.

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.

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.

Year	FIRST SEMESTER		Hours	SECOND SEMESTER		Hours
FRESHMAN	ENGL 1113	Principles of English Composition (Core I)	3	ENGL 1213 or EXPO 1213	Principles of English Composition (Core I) or Expository Writing	3
	CHEM 1315	General Chemistry (Core II) ¹	5	CHEM 1415	General Chemistry (Continued) ^{1,4}	5
	MATH 1914	Differential and Integral Calculus I (Core I) ²	4	MATH 2924	Differential and Integral Calculus II ²	4
	ENGR 1411	Freshman Engineering Experience ³	1	PHYS 2514	General Physics for Engineering and Science Majors (Core II)	4
	HIST 1483 or HIST 1493	United States, 1492 to 1865 (Core IV) or United States, 1865 to the Present	3			
	CREDIT HOURS		16	CREDIT HOURS		16
SOPHOMORE	MATH 2934	Differential and Integral Calculus III ²	4	MATH 3113	Introduction to Ordinary Differential Equations	3
	PHYS 2524	General Physics for Engineering and Science Majors (Core II)	4	AME 2303	Materials, Design and Manufacturing Processes	3
	CHEM 3053	Organic Chemistry I: Biological Emphasis ⁴	3	AME 2533	Dynamics	3
	AME 2113	Statics	3	ENGR 2431	Electrical Circuits	1
	AME 2213	Thermodynamics	3	ENGR 2531	Electrical Circuits II	1
	AME 2402	Engineering Computing	2	ENGR 3431	Electromechanical Systems	1
				CHEM 3153	Organic Chemistry II: Biological Emphasis	3
			CHEM 3152	Organic Chemistry Laboratory: Biological Emphasis	2	
	CREDIT HOURS		19	CREDIT HOURS		17
JUNIOR	BIOL 1114	Introductory Zoology ⁴	4		BIOL Elective ⁵	3
	BIOL 1121	Introductory Zoology Lab ⁴	1	AME 3103	Interactive Engineering Design Simulation	3
	AME 3112	Solid Mechanics Lab	2	AME 3122	Heat Transfer and Fluid Mechanics Lab	2
	AME 3143	Solid Mechanics	3	AME 3173	Heat Transfer	3
	AME 3153	Fluid Mechanics	3	AME 3353	Design of Mechanical Components	3
	AME 3723	Numerical Methods For Engineering Computation	3	ENGL 3153	Technical Writing	3
	ENGR 2002	Professional Development	2			
	CREDIT HOURS		18	CREDIT HOURS		17
SENIOR	PHYS 3223	Modern Physics for Engineers	3	AME 4553	Design Practicum (Capstone)	3
	P SC 1113	American Federal Government (Core III)	3	COMM 3513	Intercultural Communication (or an advisor approved substitution) (Western Civ. & Culture - Core IV) ⁶	3
	AME 3363	Design of Thermal-Fluid Systems	3	ANTH 4623	Approaches to Cross-Cultural Human Problems (or an advisor-approved substitution) (Non-Western Culture - Core IV) ⁶	3
	AME 4163	Principles of Engineering Design	3		Approved Engineering Science Elective ⁷	3
		Approved Elective: Social Science (Core III) ⁶	3		Approved Elective: Artistic Forms (Core IV) ⁶	3
	CREDIT HOURS		15	CREDIT HOURS		15

Students who wish to take the MCAT in their junior year are encouraged to take the required biology elective and the organic chemistry during their junior year. Some may also wish to take an additional biology elective (not required in the curriculum).

¹ CHEM 1315 and CHEM 1415 can be substituted with CHEM 1335 (Fall only) and CHEM 1435 (Spring only), respectively.

² MATH 1823, MATH 2423, MATH 2433, and MATH 2443 sequence can be substituted for MATH 1914, MATH 2924, and MATH 2934.

³ Engineering transfer students may take ENGR 3511 in place of ENGR 1411.

⁴ Pre-med students are required to consult the OU Pre-Med Advisor, Cate 1, Room 416, or call (405) 325-2457, and their Mechanical Engineering advisor each semester prior to enrolling. NOTE: Most medical schools also require PHYS 1311 and PHYS 1321.

⁵ Biology elective to be chosen from BIOL 3113, BIOL 3333, or BIOL 4843.

⁶ To be chosen from the University-Wide General Education Approved Course List. Three of these 12 hours must be upper-division (3000-4000).

⁷ A list of Engineering Science electives is available in the AME Office, FH 212.