

**REQUIREMENTS FOR THE BACHELOR OF SCIENCE
GALLOGLY COLLEGE OF ENGINEERING
THE UNIVERSITY OF OKLAHOMA**

Academic Year
For Students Entering the Oklahoma State System for Higher Education Summer 2024 through Spring 2025

General Requirements	
Minimum Total Credit Hours	121
Minimum Retention/Graduation Grade Point Averages:	
Overall - Combined and OU	2.00
Major - Combined and OU	2.00
Curriculum - Combined and OU	2.00

Program
Mechanical Engineering (Standard) B675 Bachelor of Science

OU encourages students to complete at least 31 hours of applicable coursework each year to have the opportunity to graduate in 4 years.

Minimum Total Credit Hours: 121

Overall GPA - Combined and OU: 2.00

Major GPA - Combined and OU: 2.00

Curriculum GPA - Combined and OU: 2.00

Program Code: B675

General Education and College Requirements

Courses designated as Core I, II, III, IV, or V are part of the General Education curriculum. Students must complete a minimum of 40 hours of General Education courses, chosen from the approved list, including at least one upper-division Gen. Ed. course outside of the student's major. Courses graded P/NP will not apply.

A grade of C or better is required in each course in the curriculum, including all prerequisite courses.

UNIVERSITY-WIDE GENERAL EDUCATION (MINIMUM 40 HOURS)

Code	Title	Credit Hours
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Core Area I: Symbolic and Oral Communication

English Composition

ENGL 1113	Principles of English Composition	3
ENGL 1213	Principles of English Composition	3
or EXPO 1213	Expository Writing	

Language (0-10 hours in the same language)

This requirement can be met by two years of the same language in high school: 0-10

Beginning Course (0-5 hours)

Beginning Course, continued (0-5 hours)

Mathematics

MATH 1914	Differential and Integral Calculus I (Core I) ^{1,2}	4
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Core Area II: Natural Science (including one laboratory)

PHYS 2514	General Physics for Engineering and Science Majors (Core II) ²	4
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CHEM 1315	General Chemistry (Core II-Lab) ²	5
or CHEM 1335	General Chemistry I: Signature Course	

Core Area III: Social Science

P SC 1113	American Federal Government	3
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Choose one course ³		3
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Core Area IV: Arts & Humanities

Artistic Forms

Choose one course ³		3
<i>Western Culture</i>		
HIST 1483	United States to 1865	3
or HIST 1493	United States, 1865 to the Present	
Choose one approved elective (Core IV-Western Culture) ³		3
<i>World Culture</i>		
Choose one approved elective World Culture (Core IV-WDC) ³		3
<i>Core Area V: First-Year Experience</i>		
ENGR 1413	Pathways to Engineering Thinking (Core V-FYE) ⁴	3
Total Credit Hours		40-50

¹ MATH 1914, MATH 2924, and MATH 2934 can be substituted with MATH 1823, MATH 2423, MATH 2433, and MATH 2443.

² Major support requirements that also satisfy University General Education requirements.

³ To be chosen from the University-Wide General Education Approved Course List. Three of these hours must be upper-division (3000-4000).

⁴ Transfer students will need to meet the requirements of the first-year experience course as well as the engineering transfer course. Please see your advisor for your specific enrollment.

Free Electives

Electives to bring total applicable hours to the minimum total required for the degree including a minimum of 40 upper-division hours.

Bachelor of Science in Mechanical Engineering accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the General Criteria and the Mechanical and Similarly Named Engineering Programs Program Criteria.

Major Requirements

Code	Title	Credit Hours
Required Courses		
AME 2102	Engineering Design Graphics	2
AME 2113	Statics	3
AME 2213	Thermodynamics	3
AME 2402	Engineering Computing	2
AME 2303	Materials, Design and Manufacturing Processes	3
AME 2533	Dynamics	3
AME 3112	Solid Mechanics Lab	2
AME 3143	Solid Mechanics	3
AME 3153	Fluid Mechanics	3
AME 3723	Numerical Methods For Engineering Computation	3
AME 3122	Heat Transfer and Fluid Mechanics Lab	2
AME 3173	Heat Transfer	3
AME 3353	Design of Mechanical Components	3
AME 3363	Design of Thermal-Fluid Systems	3
AME 4163	Principles of Engineering Design	3
AME 4553	Design Practicum	3
Experimental Elective		
Choose a 2 hour experimental elective from the list of approved courses maintained by the department ¹		2
Simulation Elective		
Choose a 3 hour simulation elective from the list of approved courses maintained by the department ¹		3
Total Credit Hours		49

¹ Refer to the department-maintained list of Technical, Experimental, and Simulation electives for course options.

Major Support Requirements

Code	Title	Credit Hours
Math and Science		
MATH 2924	Differential and Integral Calculus II	4
MATH 2934	Differential and Integral Calculus III	4
MATH 3113	Introduction to Ordinary Differential Equations	3
PHYS 2524	General Physics for Engineering and Science Majors	4
Math/Science Elective		
Choose a 3 hour Math/Science elective from the list of approved courses ¹		3
Engineering Science Elective		
Choose 6 hours of Engineering science electives from the list of approved courses maintained by the department ¹		6
Technical Elective		

Choose a 3 hour technical elective from the list of approved courses maintained by the department ¹ 3

Additional College Requirements		
ENGR 2431	Electrical Circuits	1
ENGR 2531	Electrical Circuits II	1
ENGR 3431	Electromechanical Systems	1
ENGR 2002	Professional Responsibilities and Skills of Engineers and Scientists	2
Total Credit Hours		32

¹ Refer to the department-maintained list of Technical, Experimental, and Simulation electives for course options.

More information in the catalog: (<http://ou-public.courseleaf.com/gallogly-engineering/aerospace-mechanical-engineering/mechanical-engineering-standard-bachelor-science/>).

Suggested Semester Plan of Study

Bachelor of Science in Mechanical Engineering accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the General Criteria and the Mechanical and Similarly Named Engineering Programs Program Criteria.

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

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

Courses designated as Core I, II, III, IV, or V 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-Lab) ¹	5	MATH 2924	Differential and Integral Calculus II ²	4
	MATH 1914	Differential and Integral Calculus I (Core I) ²	4	PHYS 2514	General Physics for Engineering and Science Majors (Core II)	4
	ENGR 1413	Pathways to Engineering Thinking (Core V-FYE) ³	3	HIST 1483 or HIST 1493	United States to 1865 or United States, 1865 to the Present	3
	CREDIT HOURS		15	CREDIT HOURS		14
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	4	AME 2102	Engineering Design Graphics	2
	AME 2113	Statics	3	AME 2303	Materials, Design and Manufacturing Processes	3
	AME 2213	Thermodynamics	3	AME 2533	Dynamics	3
	AME 2402	Engineering Computing	2	ENGR 2431	Electrical Circuits	1
				ENGR 2531	Electrical Circuits II	1
			ENGR 3431	Electromechanical Systems	1	
			ENGR 2002	Professional Responsibilities and Skills of Engineers and Scientists	2	
	CREDIT HOURS		16	CREDIT HOURS		16
JUNIOR	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	P SC 1113	American Federal Government (Core III)	3
		Approved Technical Elective ⁵	3		Approved Simulation Elective ⁵	3
		Approved Elective: Social Science (Core III-SS) ⁴	3			
	CREDIT HOURS		17	CREDIT HOURS		14
SENIOR		Approved Math/Science Elective ⁵	3	AME 4553	Design Practicum	3
	AME 3363	Design of Thermal-Fluid Systems	3		Approved Elective: Western Culture (Core IV-WC) ⁴	3
	AME 4163	Principles of Engineering Design	3		Approved Elective: World Culture (Core IV-WDC) ⁴	3
		Approved Engineering Science Elective ⁵	3		Approved Engineering Science Elective ⁵	3
		Approved Experimental Elective ⁵	2		Approved Elective: Artistic Forms (Core IV) ⁴	3
	CREDIT HOURS		14	CREDIT HOURS		15

¹ CHEM 1315 can be substituted with CHEM 1335 (Fall only).

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

³ Transfer students will need to meet the requirements of the first-year experience course as well as the engineering transfer course. Please see your advisor for your specific enrollment.

⁴ To be chosen from the University-Wide General Education Approved Course List. Three of these hours must be upper-division (3000-4000).

⁵ Refer to the department-maintained list of Technical, Experimental, and Simulation electives for course options.