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 2025 through Spring 2026**

General Requirements	
Minimum Total Credit Hours	**120**
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
Industrial and Systems Engineering
B524
Bachelor of Science

OU encourages students to complete at least 30 hours of applicable coursework each year to have the opportunity to graduate in 4 years.

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) AND COLLEGE REQUIREMENTS

Code	Title	Credit Hours
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
Core Area II: Natural Science (including one laboratory)		
PHYS 2514	General Physics for Engineering and Science Majors	4
Natural Science Elective with Lab [3]		4
Core Area III: Social Science		
P SC 1113	American Federal Government	3
Choose one course [4]		3
Core Area IV: Arts & Humanities		
Artistic Forms		
Choose one course [4]		3
Western Culture		
HIST 1483	United States to 1865	3
or HIST 1493	United States, 1865 to the Present	
Choose one course (excluding HIST 1483 and HIST 1493) [4]		3
World Culture		
Choose one course [4]		3
Core Area V: First-Year Experience		
ENGR 1413	Pathways to Engineering Thinking (Core V-FYE) [5]	3
Total Credit Hours		**39-49**

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

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

3 Courses taken to fulfill the Natural Science requirement must be chosen from the University-Wide General Education Approved Course List (Core II). At least one of the Natural Science courses must be a non-Physics course. All science courses must be for science or engineering majors and come from the natural science elective list maintained by the department.

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

5 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 Industrial and Systems Engineering accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Industrial Engineering 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.

MAJOR REQUIREMENTS

Code	Title	Credit Hours
Required Courses		
ISE 2823	Enterprise Engineering	3
ISE 2311	Computer Aided Design and Graphics Laboratory for Industrial Engineers	1
ISE 2303	Design and Manufacturing Process	3
ISE 3293	Applied Engineering Statistics	3
ISE 3304	Design and Manufacturing II	4
ISE 4113	Spreadsheet Dec Support Sys	3
ISE 4302	Systems Thinking	2
ISE 4553	Data-Driven Decision Making I	3
ISE 4623	Deterministic Systems Models	3
ISE 4223	Fundamentals of Engineering Economy	3
ISE 4563	Quality & Reliability Engineering	3
ISE 4633	Probabilistic Systems Models	3
ISE 4804	Ergonomics in Systems Design	4
ISE 4333	Production Systems/Operations	3
ISE 4383	Systems Evaluation	3
ISE 4663	Systems Analysis Using Simulation	3
ISE 4853	Data-Driven Decision Making II	3
ISE 4393	Capstone Design Project	3
ISE Elective		
Choose a three hour approved ISE elective [1]		3
Total Credit Hours		**56**

1 To be chosen from an approved list of ISE electives available in the ISE office, CEC 124.

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 Elective - Choose from approved list [1]		3
ISE Technical Elective		
Choose a three hour ISE Technical Elective from approved list maintained by the department		3
Additional College Requirements		
ENGR 2002	Professional Responsibilities and Skills of Engineers and Scientists	2
C S 1323	Introduction to Computer Programming for Programmers	3
or C S 1313	Programming for Non-Majors with C	
CEES 2113	Statics	3
CEES 2153	Mechanics of Materials	3
Total Credit Hours		**25**

1 Chosen from an approved list maintained by the department. Options include MATH 2513, MATH 3113 MATH 3333, MATH 3413, and MATH 4433.

More information in the catalog: (http://ou-public.courseleaf.com/gallogly-engineering/industrial-systems-engineering/industrial-systems-engineering-bachelor-science/).

SUGGESTED SEMESTER PLAN OF STUDY

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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 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 language at the University will have an additional 6-10 hours of coursework.

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
	MATH 1914	Differential and Integral Calculus I (Core I) [1]	4	C S 1323 or C S 1313	Introduction to Computer Programming for Programmers or Programming for Non-Majors with C	3
	ENGR 1413	Pathways to Engineering Thinking (Core V-FYE) [2]	3	MATH 2924	Differential and Integral Calculus II [1]	4
		Natural Science Elective with Lab [3]	4	HIST 1483 or HIST 1493	United States to 1865 (Core IV) or United States, 1865 to the Present	3
				PHYS 2514	General Physics for Engineering and Science Majors (Core II)	4
		CREDIT HOURS	**14**		**CREDIT HOURS**	**17**
SOPHOMORE	MATH 2934	Differential and Integral Calculus III [1]	4	CEES 2153	Mechanics of Materials	3
	CEES 2113	Statics	3	ISE 3293	Applied Engineering Statistics	3
	ISE 2823	Enterprise Engineering	3	ISE 2303	Design and Manufacturing Process	3
	P SC 1113	American Federal Government (Core III)	3	ISE 2311	Computer Aided Design and Graphics Laboratory for Industrial Engineers	1
					MATH Elective	3
				ENGR 2002	Professional Responsibilities and Skills of Engineers and Scientists	2
		CREDIT HOURS	**13**		**CREDIT HOURS**	**15**
JUNIOR	ISE 3304	Design and Manufacturing II	4	ISE 4223	Fundamentals of Engineering Economy	3
	ISE 4113	Spreadsheet Dec Support Sys	3	ISE 4302	Systems Thinking	2
	ISE 4553	Data-Driven Decision Making I	3	ISE 4563	Quality & Reliability Engineering	3
	ISE 4623	Deterministic Systems Models	3	ISE 4633	Probabilistic Systems Models	3
		Approved Elective: Social Science (Core III) [4]	3	ISE 4804	Ergonomics in Systems Design	4
		CREDIT HOURS	**16**		**CREDIT HOURS**	**15**
SENIOR	ISE 4333	Production Systems/Operations	3	ISE 4393	Capstone Design Project	3
	ISE 4383	Systems Evaluation	3		ISE Elective [5]	3
	ISE 4663	Systems Analysis Using Simulation	3		ISE Technical Elective [6]	3
	ISE 4853	Data-Driven Decision Making II	3		Approved Elective: World Culture (Core IV) [4]	3
		Approved Elective: Artistic Forms (Core IV) [4]	3		Approved Elective: Western Culture (Core IV) [4]	3
		CREDIT HOURS	**15**		**CREDIT HOURS**	**15**

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3 Courses taken to fulfill the Natural Science requirement must be chosen from the University-Wide General Education Approved Course List (Core II). At least one of the Natural Science courses must be a non-Physics course. All science courses must be for science or engineering majors and come from the natural science elective list maintained by the department.

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

5 To be chosen from an approved list of ISE electives available in the ISE office, CEC 124.

6 To be chosen from an approved list of ISE technical electives available in the ISE office, CEC 124.

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APPROVED MATH ELECTIVES

Code	Title	Credit Hours
MATH 2513	Discrete Mathematical Structures	3
MATH 3113	Introduction to Ordinary Differential Equations	3
MATH 3333	Linear Algebra I	3
MATH 3413	Physical Mathematics I	3
MATH 4433	Introduction to Analysis I	3