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

Academic Year	General Requirements	Program
For Students Entering the Oklahoma State System for Higher Education **Summer 2023 through Spring 2024**	Minimum Total Credit Hours ..... **135** **Minimum Retention/Graduation Grade Point Averages:** Overall - Combined and OU ..... **2.00** Major - Combined and OU ..... **2.00** Curriculum - Combined and OU **2.00**	**Industrial and Systems Engineering - Analytics Option** **B529** Bachelor of Science

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

Minimum Total Credit Hours: 135
Overall GPA - Combined and OU: 2.00
Major GPA - Combined and OU: 2.00
Curriculum GPA - Combined and OU: 2.00

Program Code: B529

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 (Core II) [2]	4
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
Choose one course [3]		3
Core Area IV: Arts & Humanities		
Artistic Forms		
Choose one course [3]		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) [3]		3
World Culture		
Choose one course [3]		3
Core Area V: First-Year Experience		
Choose one course [3]		3
Total Credit Hours		**40-50**

[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]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.

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 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		**54**

[1]List of ISE Electives and is available in the ISE office, CEC 116.

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 2513	Discrete Mathematical Structures	3
PHYS 2524	General Physics for Engineering and Science Majors	4
Additional College Requirements		
ENGR 1411	Pathways to Engineering Thinking [1]	1
C S 1323	Introduction to Computer Programming for Programmers	3
ENGR 2431	Electrical Circuits	1
ENGR 2461	Thermodynamics	1
ENGR 3441	Fluid Mechanics	1
CEES 2113	Statics	3
CEES 2153	Mechanics of Materials	3
C S 2334	Programming Structures and Abstractions	4
C S 2413	Data Structures	3
6 hours of C S Electives chosen from an approved list [2]		6
Total Credit Hours		**41**

[1]Engineering transfer students may take ENGR 3511 in place of ENGR 1411.
[2]To be chosen from the C S Elective list available in the ISE office, CEC 116. C S 3203 and C S 4513 are recommended electives.

More information in the catalog: (http://ou-public.courseleaf.com/gallogly-engineering/industrial-systems-engineering/industrial-systems-engineering-analytics-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
	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	HIST 1483 or HIST 1493	United States to 1865 (Core IV) or United States, 1865 to the Present	3
	ENGR 1411	Pathways to Engineering Thinking [3]	1	PHYS 2514	General Physics for Engineering and Science Majors (Core II)	4
		Approved Elective: First-Year Experience (Core V) [4]	3	C S 1323	Introduction to Computer Programming for Programmers	3
		CREDIT HOURS	**16**		**CREDIT HOURS**	**17**
SOPHOMORE	MATH 2934	Differential and Integral Calculus III [2]	4	CEES 2153	Mechanics of Materials	3
	C S 2334	Programming Structures and Abstractions	4	ISE 2303	Design and Manufacturing Process	3
	CEES 2113	Statics	3	ISE 2311	Computer Aided Design and Graphics Laboratory for Industrial Engineers	1
	ISE 2823	Enterprise Engineering	3	ISE 3293	Applied Engineering Statistics	3
	PHYS 2524	General Physics for Engineering and Science Majors	4	C S 2413	Data Structures	3
				MATH 2513	Discrete Mathematical Structures	3
		CREDIT HOURS	**18**		**CREDIT HOURS**	**16**
JUNIOR	ISE 3304	Design and Manufacturing II	4	ISE 4223	Fundamentals of Engineering Economy	3
	ISE 4113	Spreadsheet Dec Support Sys	3	ISE 4563	Quality & Reliability Engineering	3
	ISE 4553	Data-Driven Decision Making I	3	ISE 4633	Probabilistic Systems Models	3
	ISE 4623	Deterministic Systems Models	3	ISE 4804	Ergonomics in Systems Design	4
	C S 3203	Software Engineering	3	ENGR 2461	Thermodynamics	1
	P SC 1113	American Federal Government (Core III)	3	ENGR 3441	Fluid Mechanics	1
					Approved Elective: Artistic Forms (Core IV) [4]	3
		CREDIT HOURS	**19**		**CREDIT HOURS**	**18**
SENIOR	ISE 4333	Production Systems/Operations	3	ISE 4393	Capstone Design Project	3
	ISE 4383	Systems Evaluation	3		ISE Elective	3
	ISE 4663	Systems Analysis Using Simulation	3		Approved Elective: World Culture (Core IV) [4]	3
	ISE 4853	Data-Driven Decision Making II	3		Approved Elective: Social Science (Core III) [4]	3
	C S 4513	Database Management Systems (or other C S Elective) [5]	3		Approved Elective: Western Culture (Core IV) [4]	3
	ENGR 2431	Electrical Circuits	1			
		CREDIT HOURS	**16**		**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] Engineering transfer students may take ENGR 3511 in place of ENGR 1411.

[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 the C S Elective list available in the ISE office, CEC 116.

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.