

REQUIREMENTS FOR THE BACHELOR OF SCIENCE/MASTER OF BUSINESS ADMINISTRATION
GALLOGLY COLLEGE OF ENGINEERING
THE UNIVERSITY OF OKLAHOMA

Academic Year
For Students Entering the Oklahoma State System for Higher Education Summer 2023 through Spring 2024

General Requirements	
Minimum Total Credit Hours	156
Minimum Retention/Graduation Grade Point Averages:	
Overall - Combined and OU	3.00
Major - Combined and OU	3.00
Curriculum - Combined and OU	3.00

Program
Industrial and Systems Engineering/ Business Administration
A530/F140 Q340
Bachelor of Science/Master of Business Administration

OU encourages students to complete at least 32 hours of applicable coursework each year to have the opportunity to graduate in 5 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		
<i>English Composition</i>		
ENGL 1113	Principles of English Composition	3
ENGL 1213	Principles of English Composition	3
or EXPO 1213	Expository Writing	
<i>Language (0-10 hours in the same language)</i>		
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)		
<i>Mathematics</i>		
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		
Core Area IV: Arts & Humanities		
<i>Artistic Forms</i>		
Choose one course ³		
<i>Western Culture</i>		
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		
<i>World Culture</i>		
Choose one course ³		
Core Area V: First-Year Experience		
Choose one course ³		
Total Credit Hours		40-50

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

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

³To 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 2303	Design and Manufacturing Process	3
ISE 2311	Computer Aided Design and Graphics Laboratory for Industrial Engineers	1
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 4633	Probabilistic Systems Models	3
ISE 4804	Ergonomics in Systems Design ¹	4
ISE 5563	Quality & Reliability Engineering ¹	3
ISE 4333	Production Systems/Operations ¹	3
ISE 4663	Systems Analysis Using Simulation	3
ISE 5383	Systems Evaluation	3
ISE 5853	Data-Driven Decision Making II ¹	3
ISE 4393	Capstone Design Project	3
Total Credit Hours		51

¹These courses are dual-counted, fulfilling requirements for both the undergraduate degree and the graduate business degree.

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		
PHYS 2524	General Physics for Engineering and Science Majors	4
Additional College Requirements		
ENGR 1411	Pathways to Engineering Thinking ²	1
ENGR 2002	Professional Development	2
C S 1323	Introduction to Computer Programming for Programmers	3
or C S 1313	Programming for Non-Majors with C	
ENGR 2431	Electrical Circuits	1
ENGR 2461	Thermodynamics	1
ENGR 3441	Fluid Mechanics	1
CEES 2113	Statics	3
CEES 2153	Mechanics of Materials	3
Total Credit Hours		30

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

²Engineering transfer students may take ENGR 3511 in place of ENGR 1411.

GRADUATE REQUIREMENTS

13 hours of graduate level ISE courses that satisfy MBA requirements can be shared between BS and MBA degrees.

2 Requirements for the Bachelor of Science/Master of Business Administration

A student who actively and satisfactorily participates in all Prelude activities will receive a grade of 'S' for B AD 5010. A student who does not satisfactorily participate in 75% of Prelude Week will be required to participate in a make-up session within the first two weeks of the semester. Failure to complete a make-up session will result in a grade of 'U' for B AD 5010, resulting in cancellation of the student's enrollment in the MBA program.

Code	Title	Credit Hours
B AD 5010	Foundations of MBA Success	0
B AD 5102	Managerial Economics	2
ACCT 5202	Financial Accounting	2
FIN 5102	Financial Management	2
MGT 5702	Organizational Behavior	2
MKT 5402	Marketing Management	2
MIT 5602	Management Information Systems	2
L S 5802	Business Ethics/Legal	2
B AD 5101	MBA - Professional Development	1
B AD 5201	MBA - Professional Development II	1
Four credit hours (2 courses) of additional required coursework from the following:		4
ACCT 5212	Managerial Accounting	
B AD 5182	Quantitative Analysis II	
FIN 5112	Investments	
ENT 5102	Entrepreneurship & Innovation	
Experiential Courses		
B AD 5812	Global Business Experience	2
B AD 5822	Business Consulting Practicum	2
B AD 5832	Applied Field Project	2
Capstone		
B AD 5902	Strategic Management ¹	2
Electives (20 hours)		
Choose 7 hours of MBA elective coursework		7
Choose 13 hours of graduate level ISE electives, approved by the Graduate Liaison (Shared) ²		13
Total Credit Hours		48

¹Must make a grade of 'B' or better in B AD 5902 or it must be repeated. This is the capstone course and serves in lieu of the comprehensive examination. This requirement is non-waivable.

²Shared coursework may be used to meet the degree requirements of both the BS and MBA.

Note: Courses may be satisfied on the basis of previous study with approval of the Graduate Liaison, which must be indicated on the Program of Study form. The satisfied hours will be made up via additional elective hours to meet the required total of 48 degree applicable hours.

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

SUGGESTED SEMESTER PLAN OF STUDY

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.

Students must take the GMAT and apply for the MBA program during the third year; minimum OU GPA and combined GPA of 3.0 is required. Students should submit an application to the School of Industrial and Systems Engineering for the accelerated program during the fall semester of the junior year. Students may enter the accelerated program based on the undergraduate degree pattern offered in the year they first enrolled in the Oklahoma State System of Higher Education or later. Students must maintain a 3.0 GPA from the time of entering the accelerated program until graduation.

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			
CREDIT HOURS		16	CREDIT HOURS		14	
SOPHOMORE	MATH 2934	Differential and Integral Calculus III ²	4	CEES 2153	Mechanics of Materials	3
	PHYS 2524	General Physics for Engineering and Science Majors	4	ISE 3293	Applied Engineering Statistics	3
	CEES 2113	Statics	3	ISE 2303	Design and Manufacturing Process	3
	ENGR 2002	Professional Development	2	ISE 2311	Computer Aided Design and Graphics Laboratory for Industrial Engineers	1
	ISE 2823	Enterprise Engineering	3	C S 1323 or C S 1313	Introduction to Computer Programming for Programmers or Programming for Non-Majors with C	3
	P SC 1113	American Federal Government (Core III)	3	MATH Elective		3
CREDIT HOURS		19	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 4633	Probabilistic Systems Models	3
	ISE 4553	Data-Driven Decision Making I	3	ISE 4804	Ergonomics in Systems Design ⁵	4
	ISE 4623	Deterministic Systems Models	3	ISE 5563	Quality & Reliability Engineering ⁵	3
	ENGR 2431	Electrical Circuits	1	ENGR 2461	Thermodynamics	1
	Approved Elective: Social Science (Core III) ⁴		3	ENGR 3441	Fluid Mechanics	1
CREDIT HOURS		17	CREDIT HOURS		15	
SENIOR	ISE 4333	Production Systems/Operations ⁵	3	B AD 5812	Global Business Experience	2
	ISE 4663	Systems Analysis Using Simulation	3	B AD 5201	MBA - Professional Development II	1
	ISE 5383	Systems Evaluation	3	MKT 5402	Marketing Management	2
	ISE 5853	Data-Driven Decision Making II ⁵	3	ISE 4393	Capstone Design Project	3
	ACCT 5202	Financial Accounting	2	MBA Custom Core ⁷		2
	FIN 5102	Financial Management	2	Approved Elective: World Culture (Core IV) ⁴		3
	B AD 5010	Foundations of MBA Success ⁶	0	Approved Elective: Artistic Forms (Core IV) ⁴		3
	B AD 5101	MBA - Professional Development	1	Approved Elective: Western Culture (Core IV) ⁴		3
CREDIT HOURS		17	CREDIT HOURS		19	
FIFTH YEAR	B AD 5102	Managerial Economics	2	B AD 5822	Business Consulting Practicum	2
	MGT 5702	Organizational Behavior	2	B AD 5902	Strategic Management	2
	MIT 5602	Management Information Systems	2	L S 5802	Business Ethics/Legal	2
	B AD 5832	Applied Field Project	2	MBA Custom Core ⁷		2
	MBA Elective ⁸		2	MBA Elective ⁸		2
	MBA Elective ⁸		2	MBA Elective ⁸		1
CREDIT HOURS		12	CREDIT HOURS		11	

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 These courses are dual-counted, fulfilling requirements for both the undergraduate degree and the graduate business degree.

⁶ A student who actively and satisfactorily participates in all Prelude activities will receive a grade of 'S' for B AD 5010. A student who does not satisfactorily participate in 75% of Prelude Week will be required to participate in a make-up session within the first two weeks of the semester. Failure to complete a make-up session will result in a grade of 'U' for B AD 5010, resulting in cancellation of the student's enrollment in the MBA program.

⁷ MBA Custom Core: two courses chosen from ACCT 5212, B AD 5182, FIN 5112, ENT 5102.

⁸ To be chosen from an approved list of MBA electives available in the ISE office, CEC 116.

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.

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.

APPROVED MATH ELECTIVE

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