Joint Degrees with the BS in Industrial Engineering

Pending final notification of the Board of Trustees and Illinois Board of Higher Education in July 2025.

Admission Requirements

The minimum admission requirements for the joint degree programs are:

1. Completion of at least 30 hours of core courses (excluding ENGR 100, IE 118, IE 391, IE 392, IE 396, IE 397), where core courses are listed under the Required in the College of Engineering section of the degree.
2. an institutional GPA of 3.25/4.00 or higher;
3. a major GPA of 3.25/4.00 or higher.

Students who meet the minimum requirements to apply for the joint program can apply for consideration at any time before the beginning of their final term in the BS program. Students also must maintain an overall GPA of 3.00 or higher in the MS program. The applications will be reviewed by the Graduate Admission Committee in the Department of Mechanical and Industrial Engineering to determine whether the student will be admitted into the program. The department reserves the right to decline or accept any application.

Degree Requirements

Joint BS in Industrial Engineering/MS in Industrial Engineering

To earn a joint Bachelor of Science in Industrial Engineering/Master of Science in Industrial Engineering degree from UIC, students need to complete university, college, and department degree requirements. The Department of Mechanical Engineering degree requirements are outlined below. Students should consult the College of Engineering section for additional degree requirements and college academic policies.

The joint Bachelor of Science in Industrial Engineering (BSIE) and Master of Science in Industrial Engineering (MSIE) is designed for undergraduates with outstanding academic performance who desire to pursue graduate studies in industrial engineering, or who wish to prepare themselves for advanced placement in the workplace. Students will earn both a BSIE and MSIE degree upon completion of the program, with 8 credit hours of coursework shared between the two degrees.

The requirements for completion of the joint degree program are identical to the completion of the two separate degrees; however, 8 semester hours of shared coursework may be used for both degrees. Completion of 122 semester hours at the undergraduate level; plus 8 additional shared hours counting toward both the BSIE and MSIE degrees; plus 28 hours of coursework at the graduate level will result in joint BSIE/MSIE degrees. Only a coursework-based MSIE may be awarded.

Students accepted into the joint degree program will be able to take two 400-level (graduate) Industrial Engineering (IE) courses, enrolled as graduate students, and receive 4 hours of credit per course. The two 400-level IE courses will be applied towards 6 hours of technical electives at the undergraduate level, thereby completing the 128 semester hours for the BSIE degree. The two 400-level IE courses will also count towards 8 hours of 400-level coursework toward the MSIE degree. The two 400-level courses must meet the following requirements:

1. at the 400 level;
2. within the list of technical elective courses for the major;
3. within the IE rubric; and
4. not a required course for the completion of the undergraduate degree.

The course selections require pre-approval by an academic advisor and will be recorded in the student's academic record by the MIE Student Affairs Office; in addition, the MIE Student Affairs Office will submit the necessary forms to allow the undergraduate student to register for the graduate section of these courses.

Sample Course Schedule

Course	Title	Hours
Freshman Year		
First Semester		
MATH 180	Calculus I	4
CHEM 122	Matter and Energy	3
CHEM 123	Foundations of Chemical Inquiry I	2
ENGL 160	Academic Writing I: Writing in Academic and Public Contexts	3
ENGR 100	Engineering Success Seminar for Freshmen [a]	1
ME 250	Introduction to Engineering Design and Graphics	3
General Education Core course		3
	Hours	**18**
Second Semester		
MATH 181	Calculus II	4
PHYS 141	General Physics I (Mechanics)	4
ENGL 161	Academic Writing II: Writing for Inquiry and Research	3
CS 109	Programming for Engineers with MatLab	3
General Education Core course		3
	Hours	**17**
Sophomore Year		
First Semester		
PHYS 142	General Physics II (Electricity and Magnetism)	4
IE 201	Financial Engineering	3
CME 201	Statics	3
MATH 210	Calculus III	3
ECE 210	Electrical Circuit Analysis	3
	Hours	**16**
Second Semester		
MATH 220	Introduction to Differential Equations	3
MATH 310	Applied Linear Algebra	3
CME 203	Strength of Materials	3
IE 342	Probability and Statistics for Engineers	3
General Education Core course		3
	Hours	**15**
Junior Year		
First Semester		
IE 471	Operations Research I	3
IE 345	Regression Applications and Forecasting in Engineering	3
IE 348	Artificial Intelligence and Data Mining for Engineering Applications	3
IE 365	Work Productivity Analysis	4
General Education Core course		3
	Hours	**16**

Second Semester		
IE 442	Design and Analysis of Experiments in Engineering	3
IE 472	Operations Research II	3
STAT 362	Elements of Statistical Computing	2
Technical Elective		3
Elective Outside the Major Rubric		3
MGMT 340	Introduction to Organizations	3
	Hours	**17**
Senior Year		
First Semester		
IE 380	Manufacturing Process Principles	3
IE 396	Senior Design I [b]	3
IE 467	Discrete Event Computer Simulation Application	3
Technical Elective		3
Technical Elective (Shared)		4
	Hours	**16**
Second Semester		
IE 397	Senior Design II [b]	2
IE 463	Manufacturing Facilities Design and Material Handling	3
IE 466	Production Operation Analytics and Inventory Control	3
IE 499	Professional Development Seminar	0
Technical Elective (Shared)		4
General Education Core course		3
	Hours	**15**
Fifth Year		
First Semester		
Select 12 hours at the 400 level (8 hours must be in the IE rubric)		12
	Hours	**12**
Second Semester		
Select 16 hours at the 500 level (8 hours must be in the IE rubric)		16
	Hours	**16**
	Total Hours	**158**

Joint BS in Industrial Engineering/MS in Mechanical Engineering

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The joint Bachelor of Science in Industrial Engineering (BSIE) and Master of Science in Mechanical Engineering (MSME) is designed for undergraduates with outstanding academic performance who desire to pursue graduate studies in industrial engineering, or who wish to prepare themselves for advanced placement in the workplace. Students will earn both a BSIE and MSME degree upon completion of the program, with 8 credit hours of coursework shared between the two degrees.

The requirements for completion of the joint degree program are identical to the completion of the two separate degrees; however, 8 hours of shared coursework may be used for both degrees. Completion of 122 semester hours at the undergraduate level; plus 8 additional shared hours of credit counting toward both the BSIE and MSME degrees; plus 28 hours of coursework at the graduate level will result in joint BSIE/MSME degrees. Only a coursework-based MSME may be awarded.

Students accepted into the joint degree program will be able to take two 400-level (graduate) Mechanical Engineering (ME) courses, enrolled as graduate students, and receive 4 hours of credit per course. The two 400-level ME courses will be applied towards 6 hours of technical electives at the undergraduate level, thereby completing the 128 semester hours for the BSIE degree. The two 400-level ME courses will also count towards hours of credit of 400-level coursework toward the MSME degree. The two 400-level courses must meet the following requirements:

1. at the 400 level;
2. within the list of technical elective courses for the major;
3. within the ME rubric; and
4. not a required course for the completion of the undergraduate degree.

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General Education Core course		3
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