

Joint Degrees with the BS in Mechanical 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 catalog;
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 Mechanical Engineering/MS in Industrial Engineering

To earn a joint Bachelor of Science in Mechanical Engineering / Master of Science in Industrial Engineering degree from UIC, students need to complete university, college, and department degree requirements. The Department of Mechanical and Industrial 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 Mechanical Engineering (BSME) 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 BSME 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 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 BSME and MSIE degrees; plus 28 hours of coursework at the graduate level will result in joint BSME/MSIE degrees. Only a coursework-based MSIE may be awarded.

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.

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 credit hours per course. The two 400-level IE courses will be applied towards 6 credit hours of technical electives at the undergraduate level, thereby completing the 128 credit hours for the BSME degree. The two 400-level IE courses 5 will also count towards 8 credit 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 Mechanical Engineering/MS in Mechanical Engineering

To earn a joint Bachelor of Science in Mechanical Engineering/Master of Science in Mechanical Engineering degree from UIC, students need to complete university, college, and department degree requirements. The Department of Mechanical and Industrial 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 Mechanical Engineering (BSME) and Master of Science in Mechanical Engineering (MSME) is designed for undergraduates with outstanding academic performance who desire to pursue graduate studies in Mechanical Engineering, or who wish to prepare themselves for advanced placement in the workplace. Students will earn both a BSME 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 counting toward both the BSME and MSME degrees; plus 28 hours of coursework at the graduate level will result in joint BSME/MSME degrees. Only a course work based MSME may be awarded.

Students accepted into the joint degree program will be able to take two 400-level (graduate) Mechanical Engineering courses, enrolled as graduate students, and receive 4 credit hours per course. The two 400-level ME courses will count towards 6 credit hours of technical electives at the undergraduate level, thereby completing the 128-credit hours for the BSME degree. The two 400-level ME courses will also count towards 8 credit hours of 400-level coursework toward the MSME degree. The 5 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.

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		
ENGR 100	Engineering Success Seminar for Freshmen ^a	1
ENGL 160	Academic Writing I: Writing in Academic and Public Contexts	3
MATH 180	Calculus I	4
CHEM 122	Matter and Energy	3
CHEM 123	Foundations of Chemical Inquiry I	2
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		
MATH 210	Calculus III	3
PHYS 142	General Physics II (Electricity and Magnetism)	4
IE 201	Financial Engineering	3
CME 201	Statics	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
ME 205	Introduction to Thermodynamics	3

ME 210	Engineering Dynamics	3
Hours		15
Junior Year		
First Semester		
ME 211	Fluid Mechanics I	4
ME 320	Mechanisms and Dynamics of Machinery	3
ME 347	Engineering Design and Graphics with Computer-Aided Design and Simulation	3
ME 380	Manufacturing Process Principles	3
General Education Core course		3
Hours		16
Second Semester		
ME 321	Heat Transfer	4
ME 328	Numerical Methods in Mechanical Engineering	3
ME 370	Mechanical Engineering Design	3
Technical Elective		3
General Education Core course		3
Hours		16
Senior Year		
First Semester		
ME 312	Dynamic Systems and Control	3
ME 396	Senior Design I	3
IE 342	Probability and Statistics for Engineers	3
Elective Outside the Major Rubric		3
Technical Elective (Shared)		4
Hours		16
Second Semester		
ME 341	Experimental Methods in Mechanical Engineering	3
ME 397	Senior Design II	3
ME 499	Professional Development Seminar	0
General Education Core course		3
Technical Elective		3
Technical Elective (Shared)		4
Hours		16
Fifth Year		
First Semester		
Select 12 hours at the 400 level (8 hours must be in the ME rubric)		12
Hours		12
Second Semester		
Select 16 hours at the 500 level (8 hours must be in the ME rubric)		16
Hours		16
Total Hours		158

Joint BS in Mechanical Engineering/ Master of Energy Engineering

To earn a joint Bachelor of Science in Mechanical Engineering/ Master of Energy Engineering degree from UIC, students need to complete university, college, and department degree requirements. The Department of Mechanical and Industrial 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 Mechanical Engineering (BSME) and Master of Energy Engineering (MEE) is designed for undergraduates with outstanding academic performance who wish to prepare themselves for advanced placement in the Energy Engineering workplace. Students will earn both a BSME and Masters of Energy Engineering degrees 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 counting toward both the BSME and MEE degrees; plus 24 hours of coursework at the graduate level will result in joint BSME/MS degrees.

Students accepted into the joint degree program will be able to take two 400-level (graduate) Mechanical Engineering courses, enrolled as graduate students, and receive 4 hours of credit per course. The two 400-level ENER courses will count towards 6 hours of technical electives at the undergraduate level, thereby completing the 128 semester hours for the BSME degree. The two 400-level ENER courses will also count towards 8 hours of 400-level coursework toward the MEE 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/ENER rubric;
4. a required class in the Master of Energy degree;
5. 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
ME 205	Introduction to Thermodynamics	3

ME 210	Engineering Dynamics	3
Hours		15
Junior Year		
First Semester		
ME 211	Fluid Mechanics I	4
ME 320	Mechanisms and Dynamics of Machinery	3
ME 347	Engineering Design and Graphics with Computer-Aided Design and Simulation	3
ME 380	Manufacturing Process Principles	3
General Education Core course		3
Hours		16
Second Semester		
ME 321	Heat Transfer	4
ME 328	Numerical Methods in Mechanical Engineering	3
ME 370	Mechanical Engineering Design	3
Technical Elective		3
General Education Core course		3
Hours		16
Senior Year		
First Semester		
ME 312	Dynamic Systems and Control	3
ME 396	Senior Design I	3
IE 342	Probability and Statistics for Engineers	3
Elective Outside the Major Rubric		3
Technical Elective (Shared)		4
Hours		16
Second Semester		
ME 341	Experimental Methods in Mechanical Engineering	3
ME 397	Senior Design II	3
ME 499	Professional Development Seminar	0
General Education Core course		3
Technical Elective		3
Technical Elective (Shared)		4
Hours		16
Fifth Year		
First Semester		
ENER 420	Combined Heat and Power, Design, and Management	4
ENER 424	Industrial Energy Management and Conservation	4
ENER 451	Electric Power Generation	4
Hours		12
Second Semester		
ENER 501	Engineering Project Coordination and Management	4
ENER 552	Design of Energy Efficient Buildings	4
ENER 553		4
Hours		12
Total Hours		154