

Joint BS in Chemical Engineering/MS in Chemical Engineering

Degree Requirements

To earn a joint Bachelor of Science in Chemical Engineering/Master of Science in Chemical Engineering degree from UIC, students need to complete university, college, and department degree requirements. The Department of Chemical 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 Chemical Engineering (BSCHE) and Master of Science in Chemical Engineering (MSCHE) is designed for undergraduate students who desire to pursue graduate studies in Chemical Engineering or who wish to prepare themselves for advanced placement in the workplace. Students will earn both a BSCHE and an MSCHE degree upon completion, with 8 hours of course work shared between the two degrees.

The requirements for completion of the combined BSCHE/MSCHE degree are identical to the completion of these two separate degrees; however, there are 8 hours of shared course work used for both degrees. Completion of 122 hours at the undergraduate level; plus 8 shared hours counting toward both the BSCHE and MSCHE degrees; plus 28 hours of course work at the graduate level will result in joint BSCHE/MSCHE degrees. Students accepted into the joint degree program will be able to take a 400-level (graduate) Chemical Engineering course and a 500-level seminar course after they complete CHE 301, CHE311, CHE 312, CHE 313, and CHE 321. These student will be eligible to enroll as a graduate student to receive 4 hours for the 400-level (graduate) Chemical Engineering course. The 400-level CHE course will count towards the technical elective course for the bachelor's degree and as an elective course for the master's degree. The student will then select a 500-level seminar course and a 400-level course from other engineering majors chosen in consultation with their CHE advisor. The 400-level non-CHE course will count towards the elective course outside the major for the bachelor's degree (or free electives in the BS in CHE) and the elective course for the master's degree. The 500-level seminar courses will count towards the elective course for the master's degree.

Students can apply for the joint degree (<https://che.uic.edu/graduate-programs/41-program-interest-form/>) at any time before the end of the second week of the fall term of their senior year in the BS program. A GPA of 2.5 or higher in the prior semester is required for application to the joint BS/MS degree program. Students also need to maintain an overall GPA of 2.0 or higher in BS and an overall GPA of 3.0 or higher in the MS program. The applications will be reviewed by the Graduate Admission Committee in the Chemical Engineering department to determine whether the student will be admitted to this program. The department reserves the right to decline or accept any application. If a student is admitted to the joint program, a Change of Program form will be processed to finalize the admission.

Sample Course Schedule for BS Students in Chemical Engineering but not in Biochemical Engineering Concentration

First Year

First Semester

		Hours
ENGR 100	Engineering Orientation ^a	1
ENGL 160	Academic Writing I: Writing in Academic and Public Contexts	3
MATH 180	Calculus I	4
CHEM 122 & CHEM 123 or CHEM 116	General Chemistry I Lecture or Honors and Majors General and Analytical Chemistry I	5
	General Education Core Course	3
	Hours	15

Second Semester

CS 109	Programming for Engineers with MatLab	3
MATH 181	Calculus II	4
PHYS 141	General Physics I (Mechanics)	4
CHEM 124 & CHEM 125 or CHEM 118	General Chemistry II Lecture or Honors and Majors General and Analytical Chemistry II	5
	Hours	16

Second Year

First Semester

ENGL 161	Academic Writing II: Writing for Inquiry and Research	3
PHYS 142	General Physics II (Electricity and Magnetism)	4
CHE 201	Introduction To Thermodynamics	3
MATH 210	Calculus III	3
CHEM 222	Analytical Chemistry	4
	Hours	17

Second Semester

CHE 205	Computational Methods in Chemical Engineering	3
CHE 210	Material and Energy Balances	4
MATH 220	Introduction to Differential Equations	3
CHEM 232	Organic Chemistry I	4
CHEM 342	Physical Chemistry I	3
	Hours	17

Third Year

First Semester

CHE 301	Chemical Engineering Thermodynamics	3
CHE 311	Transport Phenomena I	3
ECE 210	Electrical Circuit Analysis	3
CHEM 233	Organic Chemistry Laboratory I	2
CHEM 346	Physical Chemistry II	3
General Education Core Course		3
Hours		17

Second Semester

CHE 312	Transport Phenomena II	3
CHE 313	Transport Phenomena III	3
CHE 321	Chemical Reaction Engineering	3
CHEM 234	Organic Chemistry II	4
CME 260	Properties of Materials	3
Hours		16

Fourth Year

First Semester

CHE 381	Chemical Engineering Laboratory I	2
CHE 396	Senior Design I	4
CHE 499	Professional Development Seminar	0
CHE 595	Seminar (MS coursework)	1
General Education Core course		3
General Education Core Course		3
400 level CHE Technical Elective		4
Hours		17

Second Semester

CHE 341	Chemical Process Control	3
CHE 382	Chemical Engineering Laboratory II	2
CHE 397	Senior Design II	4
CHE 595	Seminar (MS coursework)	1
400 level Elective outside the Major Rubric		4
General Education Core course		3
Hours		17

Fifth Year

First Semester

CHE 501 or 502	Advanced Thermodynamics (MS coursework)	4
CHE 520	Transport Phenomena (MS coursework)	4

<u>CHE 531</u> or 545	Advanced Mathematics (MS coursework)	4
CHE 595	Seminar (MS coursework)	1
	Hours	13

Second Semester

<u>CHE 510, 511</u> or 512	Separation Processes (MS coursework)	4
<u>CHE 527</u>	Advanced Chemical Reaction Engineering (MS coursework)	4
<u>CHE 597</u> or <u>CHE Elective</u>	Project Research or 400/500 Level CHE course or Equiv (MS coursework)	4
CHE 595	Seminar	1
	Hours	13
	Total Hours	158