

Four-Year Program of Study 2021-2022 Catalog Year

FIRST YEAR

Fall Semester	Units
MATH 1310 or 1311 Eng Calculus I ¹	4
CHEM 1210 General Chemistry I	4
CHEM 1215 General Chemistry Lab I	1
WRTG 2010 Intermediate Writing	3
CH EN 1703 Intro to Chem Eng	2
General Education/Bachelor Req	3
Total	17

Spring Semester	Units
MATH 1320 or 1321 Eng Calculus II	4
CHEM 1220 General Chemistry II	4
CHEM 1225 General Chemistry Lab II	1
PHYS 2210 Physcs For Scien & Eng I	4
CH EN 1705 ChemE Design & Innov ²	3
CH EN 2955 Undergraduate Seminar	0.5
Total	16.5

SECOND YEAR

Fall Semester	Units
MATH 2250 Diff Eqn & Lin Algebra ³	4
PHYS 2220 Physcs For Scien & Eng II	4
CH EN 2300 Thermodynamics I	2
CH EN 2953 Undergraduate Seminar	0.5
CH EN 2550 Stats for ChemE	3
General Education/Bachelor Req	3
Total	16.5

Spring Semester	Units
Technical Elective ⁴	3
CH EN 2450 Numerical Methods	3
CH EN 2800 Fund. of Process Eng	3
CHEM 2310 Organic Chemistry I	4
General Education/Bachelor Req	3
Total	16

THIRD YEAR

Fall Semester	Units
CH EN 3353 Fluid Mechanics	3
CH EN 3453 Heat Transfer	3
CH EN 3853 Chemical Eng Thermo	3
CH EN 3700 Technical Communication	3
CH EN 3701 Projects Lab I	2
Total	14

Spring Semester	Units
CH EN 3603 Mass Transfer & Separations	3
CH EN 3553 Chemical Reaction Eng	3
CH EN 5103 Biochemical Engineering	3
CH EN 3702 Projects Lab II	2
General Education/Bachelor Req	3
Total	14

FOURTH YEAR

Fall Semester	Units
CH EN 4701 Projects Lab III	1
CH EN 4706 Capstone Project I	2
CH EN 4253 Process Design I	3
CH EN 4203 Process Control	3
Technical Electives	6
Total	15

Spring Semester	Units
CH EN 4707 Capstone Project II	2
CH EN 5253 Process Design II	3
CH EN 3253 Chemical Process Safety	3
Technical elective	3
General Education/Bachelor Req	3
Total	14

Grand Total Hours 123
or 124

1. Students who are transferring to the U with a traditional calculus sequence, such as MATH 1210 (Calculus I), 1220 (Calculus II), should plan on taking MATH 2210 (Calculus III), if they have not already done so, before taking MATH 2250 (Differential Equations and Linear Algebra).
2. Transfer students may replace 1705 with PHYS 2215 and 2225 (Physics Lab for Scien and Eng I & II) and CHEM 2315 (Org Chem Lab I). A transfer student is defined as someone who has completed 2/3 or more of their first-year requirements at another school. If 1705 is replaced by physics and chemistry labs, those labs may not be used as technical electives.
3. Students who plan to attend graduate school are encouraged to follow MATH 2250 with MATH 3140 Vector Calc and PDEs or MATH 2210 Vector Calculus and MATH 3150 PDEs.
4. To fulfill this first technical elective requirement, students who are completing their first two years at another college or university may take an approved 1000- or 2000-level technical elective at that school. Examples of approved courses include BIOL 2020, 2030, CHEM 2320, ECE 2210, CS 1410. Students who are completing their first two years at the U should choose one of three courses: MSE 3210 Electronic Prop Solids (3 hr) or ECE 3200 Semicond Device Phys (3 hr) or CHEM 3060 Quantum Chem (4 hr). Transfer students can delay taking one of these three until their third or fourth year. All students are required to complete one of these three. MSE 3210 is offered only in fall.

Five-Year Program of Study 2021-2022 Catalog Year

FIRST YEAR

Fall Semester	Units
MATH 1310 or 1311 Eng Calculus I ¹	4
CHEM 1210 General Chemistry I	4
CHEM 1215 General Chemistry Lab I	1
WRTG 2010 Intermediate Writing	3
CH EN 1703 Intro to Chem Eng	2
Total	14

Spring Semester	Units
MATH 1320 or 1321 Eng Calculus II	4
CHEM 1220 General Chemistry II	4
CHEM 1225 General Chemistry Lab II	1
PHYS 2210 Phycs For Scien & Eng I	4
CH EN 1705 ChemE Design & Innov ²	3
CH EN 2955 Undergraduate Seminar	0.5
Total	16.5

SECOND YEAR

Fall Semester	Units
MATH 2250 Diff Eqn & Lin Algebra ³	4
PHYS 2220 Phycs For Scien & Eng II	4
CH EN 2300 Thermodynamics I	2
CH EN 2953 Undergraduate Seminar	0.5
General Education/Bachelor Req	3
Total	13.5

Spring Semester	Units
CH EN 2450 Numerical Methods	3
CH EN 2800 Fund. of Process Eng	3
CHEM 2310 Organic Chemistry I	4
General Education/Bachelor Req	3
Total	13

THIRD YEAR

Fall Semester	Units
CH EN 3353 Fluid Mechanics	3
CH EN 3853 Chemical Eng Thermo	3
CH EN 2550 Stats for ChemE	3
General Education/Bachelor Req	3
Total	12

Spring Semester	Units	
MSE 3210 Elect Prop Solids	3	Choose
ECE 3200 Semicond Device Phys	3	one of
CHEM 3060 Quantum Chemistry	4	three
Technical Elective	3	
General Education/Bachelor Req	3	
Total	9	10

FOURTH YEAR

Fall Semester	Units
CH EN 3453 Heat Transfer	3
CH EN 3700 Technical Communication	3
CH EN 3701 Projects Lab I	2
Total	8

Spring Semester	Units
CH EN 3603 Mass Transfer & Separations	3
CH EN 3553 Chemical Reaction Eng	3
CH EN 5103 Biochemical Engineering	3
CH EN 3702 Projects Lab II	2
General Education/Bachelor Req	3
Total	14

FIFTH YEAR

Fall Semester	Units
CH EN 4701 Projects Lab III	1
CH EN 4706 Capstone Project I	2
CH EN 4253 Process Design I	3
CH EN 4203 Process Control	3
Technical Elective	3
Total	12

Spring Semester	Units
CH EN 4707 Capstone Project II	2
CH EN 5253 Process Design II	3
CH EN 3253 Chemical Process Safety	3
Technical elective	3
Total	11

Grand Total Hours 123
 or 124

1. See note (1) on previous page.
2. See note (2) on previous page.
3. See note (3) on previous page.