

Chemical Engineering Curriculum

Catalog Year 2019-2020/2020-2021

First-year Fall Semester	Credits	First-year Spring Semester	Credits
CHEM 1127Q General Chemistry I	4	CHEM 1128Q General Chemistry II	4
MATH 1131Q Calculus I	4	MATH 1132Q Calculus II	4
ENGR 1000 Orientation to Engineering	1	ENGR 1166 Foundations of Engineering	3
CSE 1010 Intro to Computer Programming	3	Content Area 1 Course (CA 1) ¹	3
ENGL 1007 Academic Writing/First-year Writing	4	Content Area 2 Course (CA 2) ¹	3
	16		17

Sophomore Fall Semester	Credits	Sophomore Spring Semester	Credits
PHYS 1501Q Engineering Physics	4	PHYS 1502Q Engineering Physics II	4
CHEM 2443 Organic Chemistry	3	CHEM 2446 Organic Chemistry Lab (Spring)	1
MATH 2110Q Multivariable Calculus	4	CHEM 2444 Organic Chemistry	3
CHEG 2103 Intro to Chemical Engr (Fall & Summer)	3	MATH 2410Q Differential Equations	3
PHIL 1104 Ethics (CA 1) ¹	3	CHEG 2111 Thermodynamics I (Spring)	3
	17	Content Area 4 Course (CA 4) ¹	3
			17

Junior Fall Semester	Credits	Junior Spring Semester	Credits
CHEG 3112 Thermodynamics II (Fall)	3	CHEG 3124 Heat & Mass Transfer (Spring)	3
CHEG 3123 Fluid Mechanics (Fall)	3	CHEG 3128 Junior Chemical Engineering Lab (Spring)	2
CHEG 3145 Chemical Engineering Analysis (Fall)	3	CHEG 3151 Process Kinetics (Spring)	3
Content Area 2 Course (CA 2) ¹	3	Engineering Elective ³	3
MCB/Bio/Chem Course ⁵	4	Content Area 4 INTERNATIONAL Course (CA 4-INT) ¹	3
	16	Free Elective	3
			16

Senior Fall Semester	Credits	Senior Spring Semester	Credits
CHEG 4139 Chemical Engineering Lab (Spring or Fall) or CHEG Elective ²	2 or 3	CHEG 4139 Chemical Engineering Lab (Spring or Fall) or CHEG Elective ²	2 or 3
CHEG 4140 Capstone Design 1 (Fall)	3	CHEG 4143W Capstone Design 2 (Spring)	3
CHEG 4142 Unit Ops & Process Simulation Lab (Fall)	3	CHEG 4147 Process Dynamics & Control (Spring)	3
Engineering Elective ³	3	CHEG Elective ²	3
Free Elective	3	Professional Requirement ⁴	3
	14 or 15		14 or 15

Second Language Requirement: _____

Environmental Literacy Requirement: _____(E)

Writing Requirement from outside of CHEG: _____(W)

¹**University General Education Requirements:** Courses selected for Content Areas 1 & 2 must be in four different departments. One course in Content Area 4 must be designated as "international" (CA4-int). One course in Content Area 4 may also satisfy a Content Area 1 or Content Area 2 requirement, however credit is not awarded twice so be sure to make up the 3 credits with free electives in order to reach the required 128 credits total toward graduation.

²**Six credits in CHEG Electives** are satisfied by any 2000 level Chemical Engineering course. Research with CHEG faculty is commonly used to satisfy this area. Only six credits of CHEG research (independent study) may be applied toward degree requirements.

³**Six credits in Engineering Electives** are satisfied by any 2000-level or higher engineering course within any department of the School of Engineering.

⁴**Professional Requirement** is satisfied by at least three credits in Engineering, Science, or Math at 2000-level or higher.

⁵**MCB/Bio/Chem Course requirement** may be satisfied by one of the following courses: BIO 1107; BIO 1108; MCB 2000; MCB 3010; MCB 2610; CHEM 3563; CHEM 3332; CHEM 3564; or others by petition to Department Head.