



University of Connecticut
School of Engineering

Chemical Engineering Program Road Maps

Undergraduate Curriculum Options

For Class of 2014 and Beyond

Dear Chemical Engineering Student:

This document contains our Chemical Engineering curriculum Road Maps, showing you how to fulfill our curriculum of study while guiding you through a choice of minors.

Please note that there are no restrictions on the number of minors you may receive. Set your sights high and work with your advisor to meet your goals!

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The Chemical Engineering Program Education Objectives are that our alumni:

- Prepare our graduates for professional careers through rigorous training in the fundamentals of chemical engineering.
- Prepare our graduates to contribute to the evolving and expanding field of chemical engineering by providing a foundation for post-graduate education and life-long professional development.

General CHEG Curriculum

FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEM 1127Q General Chemistry	4	CHEM 1128Q General Chemistry	4
MATH 1131Q Calculus I	4	MATH 1132Q Calculus II	4
ENGR 1000 Orientation to Engineering	1	ENGR 1166 Foundations of Engineering	3
CSE 1010C Intro to Computing	3	Arts & Humanities (Content Area 1) ¹	3
ENGL 1010 or 1011 Academic Writing	4	Social Sciences (Content Area 2) ¹	3
	16		17

SOPHOMORE YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
PHYS 1501Q Eng Physics I	4	PHYS 1502Q Eng Physics II	4
CHEM 2443 Organic Chemistry	3	CHEM 2446 Organic Chemistry Lab	1
MATH 2110Q Multivariable Calculus	4	CHEM 2444 Organic Chemistry	3
CHEG 2103 Intro to Chem Engineering	3	MATH 2410Q Diff Equations	3
PHIL 1104 Ethics (Content Area 1) ¹	3	CHEG 2111 Thermodynamics I	3
		Free Elective	3
	17		17

JUNIOR YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEG 3112 Thermodynamics II	3	CHEG 3124 Heat & Mass Transfer	3
CHEG 3123 Fluid Mechanics	3	CHEG 3151 Process Kinetics	3
CHEG 3127 Fluid Mechanics Lab	1	CHEG 3128 Heat/Mass/Kinetics Lab	2
CHEG 3145 Chemical Engineering Analysis	3	Engineering Requirement ³	3
Social Science (Content Area 2) ¹	3	Diversity and Multiculture (Content Area 4) ¹	3
MCB/Biology/CHEM Requirement ²	4		
	17		14

SENIOR YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEG 4137W Chem Engineering Lab	3	CHEG 4137W Chem Engineering Lab	3
OR Free Elective		OR Free Elective	
CHEG 4140 Capstone Design 1	1	CHEG 4147 Process Dynamics & Control	3
CHEG 4142 Unit Ops & Process Simulation Lab	3	CHEG 4143 Capstone Design 2	3
Diversity and Multiculture (Content Area 4) ¹	3	CHEG Requirement ³	3
CHEG Requirement ³	3	Professional Requirement ³	3
Engineering Requirement ³	3		
	16		15

Total 129 credits

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 an international course. One course in Content Area 4 may also satisfy a Content Area 1 or 2 requirement.

² MCB/Biology/CHEM requirement may be satisfied by the following courses: Principles of Biology (BIOL 1107/1108 – 4 credits), Introduction to Biochemistry (MCB 2000 – 4 credits), Biochemistry (MCB 3010 – 5 credits) or Fundamentals of Microbiology (MCB 2610 – 4 credits), Physical Chemistry (CHEM 3563 - 4 credits), Analytical Chemistry (CHEM 3332 - 4 credits), Physical Chemistry 2 (CHEM 3564 - 4 credits) or others by petition.

³ CHEG Requirements are satisfied by any 2000 level chemical engineering course; Engineering Requirements are satisfied by any 2000 level engineering course; Professional Requirements are satisfied by any 2000 level engineering, science or math courses. A full list can be found at: <http://www.cbe.engr.uconn.edu/wp-content/uploads/2013/03/roadmapsCBE2014.pdf>

Chemical Engineering Major – Chemistry Minor Curriculum

FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEM 1127Q General Chemistry	4	CHEM 1128Q General Chemistry	4
MATH 1131Q Calculus I	4	MATH 1132Q Calculus II	4
ENGR 1000 Orientation to Engineering	1	ENGR 1166 Foundations of Engineering	3
CSE 1010C Intro to Computing	3	Arts & Humanities (Content Area 1) ¹	3
ENGL 1010 or 1011 Academic Writing	4	Social Sciences (Content Area 2) ¹	3
	16		17

SOPHOMORE YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
PHYS 1501Q Eng Physics I	4	PHYS 1502Q Eng Physics II	4
CHEM 2443 Organic Chemistry ²	3	CHEM 2446 Organic Chemistry Lab ⁴	1
MATH 2110Q Multivariable Calculus	4	CHEM 2444 Organic Chemistry ²	3
CHEG 2103 Intro to Chem Engineering	3	MATH 2410Q Diff Equations	3
PHIL 1104 Ethics (Content Area 1) ¹	3	CHEG 2111 Thermodynamics I	3
		Free Elective	3
	17		17

JUNIOR YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEG 3112 Thermodynamics II	3	CHEG 3124 Heat & Mass Transfer	3
CHEG 3123 Fluid Mechanics	3	CHEG 3151 Process Kinetics	3
CHEG 3127 Fluid Mechanics Lab	1	CHEG 3128 Heat/Mass/Kinetics Lab	2
CHEG 3145 Chemical Engineering Analysis	3	Engineering Requirement ³	3
Social Science (Content Area 2) ¹	3	Diversity and Multiculture (Content Area 4) ¹	3
CHEM 3332 Analytical Chemistry ²	4		
	17		14

SENIOR YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEG 4137W Chem Engineering Lab	3	CHEG 4137W Chem Engineering Lab	3
OR CHEM Elective ²		OR CHEM Elective ²	
CHEG 4140 Capstone Design 1	1	CHEG 4147 Process Dynamics & Control	3
CHEG 4142 Unit Ops & Process Simulation Lab	3	CHEG 4143 Capstone Design 2	3
Diversity and Multiculture (Content Area 4) ¹	3	CHEG Requirement ³	3
CHEG Requirement ³	3	Professional Requirement ³	3
Engineering Requirement ³	3		
	16		15

Total 129 credits

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 an international course. One course in Content Area 4 may also satisfy a Content Area 1 or 2 requirement.

² The Chemistry minor has the following required courses: Organic I/II/Lab (CHEM 2443, 2444, 2446) and Analytical Chemistry (CHEM 3332). One course must be selected from the following list: [FALL] Inorganic Chemistry (CHEM 3210), Physical Chemistry (CHEM 3563) or Instrumental Analysis (CHEM 3334) [SPRING] Polymeric Materials (CHEM 3661) or Advanced Organic Chemistry (CHEM 3442W). 15 credits total are required

³ CHEG Requirements are satisfied by any 2000 level chemical engineering course; Engineering Requirements are satisfied by any 2000 level engineering course; Professional Requirements are satisfied by any 2000 level engineering, science or math courses. A full list can be found at <http://www.cbe.engr.uconn.edu/wp-content/uploads/2013/03/roadmapsCBE2014.pdf>

Chemical Engineering Major - Environmental Engineering Minor

FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEM 1127Q General Chemistry	4	CHEM 1128Q General Chemistry	4
MATH 1131Q Calculus I	4	MATH 1132Q Calculus II	4
ENGR 1000 Orientation to Engineering	1	ENGR 1166 Foundations of Engineering	3
CSE 1010C Intro to Computing	3	Arts & Humanities (Content Area 1) ¹	3
ENGL 1010 or 1011 Academic Writing	4	Social Sciences (Content Area 2) ¹	3
	16		17

SOPHOMORE YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
PHYS 1501Q Eng Physics I	4	PHYS 1502Q Eng Physics II	4
CHEM 2443 Organic Chemistry	3	CHEM 2446 Organic Chemistry Lab	1
MATH 2110Q Multivariable Calculus	4	CHEM 2444 Organic Chemistry	3
CHEG 2103 Intro to Chem Engineering	3	MATH 2410Q Diff Equations	3
ENVE 2310 Fund of Environ'l Engr²	3	CHEG 2111 Thermodynamics I	3
	17	ENVE 3230 Intro to Air Pollution^{2 & 3}	3
			17

JUNIOR YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEG 3112 Thermodynamics II	3	CHEG 3124 Heat & Mass Transfer	3
CHEG 3123 Fluid Mechanics	3	CHEG 3151 Process Kinetics	3
CHEG 3127 Fluid Mechanics Lab	1	CHEG 3128 Heat/Mass/Kinetics Lab	2
CHEG 3145 Chemical Engineering Analysis	3	ENVE 3220 Water Quality Engr²	3
Social Sciences (Content Area 2) ¹	3	Diversity & MultiCulture (Content Area 4) ¹	3
MCB / CHEM Requirement ⁴	4	ENVE 4310 Environmental Modeling²	3
	17		17

SENIOR YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEG 4137W Chem Engineering Lab	3	CHEG 4137W Chem Engineering Lab	3
OR CHEG Requirement³		OR CHEG Requirement³	
CHEG 4140 Capstone Design 1	1	CHEG Requirement ³	3
CHEG 4142 Unit Ops & Process Simulation Lab	3	CHEG 4143 Capstone Design 2	3
CHEG Requirement ³	3	Diversity & MultiCulture (Content Area 4) ¹	3
CHEG 4147 Process Dynamics & Control	3		
PHIL 1104 Ethics (Content Area 1) ¹	3		
	16		12

Total 129 credits

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 an international course. One course in Content Area 4 may also satisfy a Content Area 1 or 2 requirement.

² The Environmental Engineering minor requires 18 credits including ENVE 3220, 2310, 3230 and 4310 plus 6 credits from an approved list of 2000-level courses (which includes CHEG 3151 and 4147). You should review the Environmental Engineering minor website for requirement changes and other options. You must get a minor plan of study approved in advance by the Environmental Engineering program director. **Due to possible scheduling conflicts later in the curriculum, students are recommended to take their environmental engineering courses early in their curriculum.**

³ CHEG Requirements are satisfied by any 2000 level chemical engineering course; Engineering Requirements are satisfied by any 2000 level engineering course.

⁴ MCB / CHEM requirement may be satisfied by the following courses: Introduction to Biochemistry (MCB 2000 – 4 credits), Biochemistry (MCB 3010 – 5 credits) or Fundamentals of Microbiology (MCB 2610 – 4 credits), Physical Chemistry (CHEM 3563 - 4 credits), Analytical Chemistry (CHEM 3332 - 4 credits), or Physical Chemistry 2 (CHEM 3564 – 4 Credits)

Chemical Engineering Major – Materials Science Minor Curriculum

FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEM 1127Q General Chemistry	4	CHEM 1128Q General Chemistry	4
MATH 1131Q Calculus I	4	MATH 1132Q Calculus II	4
ENGR 1000 Orientation to Engineering	1	ENGR 1166 Foundations of Engineering	3
CSE 1010C Intro to Computing	3	Arts & Humanities (Content Area 1) ¹	3
ENGL 1010 or 1011 Academic Writing	4	Social Sciences (Content Area 2) ¹	3
	16		17

SOPHOMORE YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
PHYS 1501Q Eng Physics I	4	PHYS 1502Q Eng Physics II	4
CHEM 2443 Organic Chemistry	3	CHEM 2446 Organic Chemistry Lab	1
MATH 2110Q Multivariable Calculus	4	CHEM 2444 Organic Chemistry	3
CHEG 2103 Intro to Chem Engineering	3	MATH 2410Q Diff Equations	3
MSE 2101/2001 Intro to Mat Sci & Engr ²	3	CHEG 2111 Thermodynamics I	3
		MSE 2102/2002 Intro to Mat Sci & Engr II ²	3
	17		17

JUNIOR YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEG 3112 Thermodynamics II	3	CHEG 3124 Heat & Mass Transfer	3
CHEG 3123 Fluid Mechanics	3	CHEG 3151 Process Kinetics	3
CHEG 3127 Fluid Mechanics Lab	1	CHEG 3128 Heat/Mass/Kinetics Lab	2
CHEG 3145 Chemical Engineering Analysis	3	CHEG 3156 CHEG/MSE Req. (Polymers) ^{2,3}	4
MCB/Biology/CHEM Requirement ⁴	4	Diversity and Multiculture (Content Area 4) ¹	3
		Free Elective	3
	14		18

SENIOR YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEG 4137W Chem Engineering Lab	3	PHIL 1104 Ethics (Content Area 1) ¹	3
CHEG 4140 Capstone Design 1	1	CHEG 4147 Process Dynamics & Control	3
CHEG 4142 Unit Ops & Process Simulation Lab	3	CHEG 4143 Capstone Design 2	3
Diversity and Multiculture (Content Area 4) ¹	3	Social Science (Content Area 2) ¹	3
CHEG Requirement ³	3	MSE Minor Requirement ²	3
MSE Minor Requirement ²	3		
	16		15

Total 130 credits

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 an international course. One course in Content Area 4 may also satisfy a Content Area 1 or 2 requirement.

² The Materials Engineering Minor requires 15 credits including MSE 2101, 2102 plus 9 credit selected from MSE 3000-level or 4000-level courses (BME 3700 and CHEG 3156 qualifies as MSE 3000-level courses). You should review the Materials Engineering minor website for other options and details. You must get a minor plan of study approved in advance by the Materials Engineering program director.

³ CHEG Requirements are satisfied by any 2000 level chemical engineering course.

⁴ MCB/Biology/CHEM requirement may be satisfied by the following courses: Principles of Biology (BIOL 1107/1108 – 4 credits), Introduction to Biochemistry (MCB 2000 – 4 credits), Biochemistry (MCB 3010 – 5 credits) or Fundamentals of Microbiology (MCB 2610 – 4 credits), Physical Chemistry (CHEM 3563 - 4 credits), Analytical Chemistry (CHEM 3332 - 4 credits), Physical Chemistry 2 (CHEM 3564 - 4 credits) or others by petition.

Chemical Engineering Major - Math Minor Curriculum

FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEM 1127Q General Chemistry	4	CHEM 1128Q General Chemistry	4
MATH 1131Q Calculus I	4	MATH 1132Q Calculus II	4
ENGR 1000 Orientation to Engineering	1	ENGR 1166 Foundations of Engineering	3
CSE 1010C Intro to Computing	3	Arts & Humanities (Content Area 1) ¹	3
ENGL 1010 or 1011 Academic Writing	4	Social Sciences (Content Area 2) ¹	3
	16		17

SOPHOMORE YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
PHYS 1501Q Eng Physics I	4	PHYS 1502Q Eng Physics II	4
CHEM 2443 Organic Chemistry	3	CHEM 2446 Organic Chemistry Lab	1
MATH 2110Q Multivariable Calculus ²	4	CHEM 2444 Organic Chemistry	3
CHEG 2103 Intro to Chem Engineering	3	MATH 2410Q Diff Equations ²	3
PHIL 1104 Ethics (Content Area 1) ¹	3	CHEG 2111 Thermodynamics I	3
		MATH 2210Q Applied Linear Algebra ²	3
	17		17

JUNIOR YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEG 3112 Thermodynamics II	3	CHEG 3124 Heat & Mass Transfer	3
CHEG 3123 Fluid Mechanics	3	CHEG 3151 Process Kinetics	3
CHEG 3127 Fluid Mechanics Lab	1	CHEG 3128 Heat/Mass/Kinetics Lab	2
CHEG 3145 Chemical Engineering Analysis	3	Engineering Requirement ³	3
Social Science (Content Area 2) ¹	3	Diversity and Multiculture (Content Area 4) ¹	3
MCB/Biology/CHEM Requirement ²	4		
	17		14

SENIOR YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
MATH Elective for Minor ²	3	CHEG 4137W Chem Engineering Lab	3
CHEG 4140 Capstone Design 1	1	CHEG 4147 Process Dynamics & Control	3
CHEG 4142 Unit Ops & Process Simulation Lab	3	CHEG 4143 Capstone Design 2	3
Diversity and Multiculture (Content Area 4) ¹	3	CHEG Requirement ³	3
CHEG Requirement ³	3	MATH Elective for Minor ²	3
Engineering Requirement ³	3		
	16		15

Total 129 credits

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 an international course. One course in Content Area 4 may also satisfy a Content Area 1 or 2 requirement.

² The Math minor requires 16 credits including MATH 2410Q, 2410 and 2210Q; plus six credits that count as professional requirements³ selected from this list: MATH 3710, 3230, 2360Q, 3160, 3260, 3330, 3146, 3240, 3150, 3510, 4735.

³ CHEG Requirements are satisfied by any 2000 level chemical engineering course; Engineering Requirements are satisfied by any 2000 level engineering course.

⁴ MCB/Biology/CHEM requirement may be satisfied by the following courses: Principles of Biology (BIOL 1107/1108 – 4 credits), Introduction to Biochemistry (MCB 2000 – 4 credits), Biochemistry (MCB 3010 – 5 credits) or Fundamentals of Microbiology (MCB 2610 – 4 credits), Physical Chemistry (CHEM 3563 - 4 credits), Analytical Chemistry (CHEM 3332 - 4 credits), Physical Chemistry 2 (CHEM 3564 - 4 credits) or others by petition.

Chemical Engineering Major – Molecular and Cell Biology Minor Curriculum

FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEM 1127Q General Chemistry	4	CHEM 1128Q General Chemistry	4
MATH 1131Q Calculus I	4	MATH 1132Q Calculus II	4
ENGR 1000 Orientation to Engineering	1	ENGR 1166 Foundations of Engineering	3
CSE 1010C Intro to Computing	3	Arts & Humanities (Content Area 1) ¹	3
ENGL 1010 or 1011 Academic Writing	4	BIOL 1107 Principles of Biology	4
	16		18

SOPHOMORE YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
PHYS 1501Q Eng Physics I	4	PHYS 1502Q Eng Physics II	4
CHEM 2443 Organic Chemistry	3	CHEM 2444 Organic Chemistry	3
MATH 2110Q Multivariable Calculus	4	CHEM 2446 Organic Chemistry Lab	1
CHEG 2103 Intro to Chem Engineering	3	MATH 2410Q Diff Equations	3
MCB 2410² Genetics	3	CHEG 2111 Thermodynamics I	3
	17	PHIL 1104 Ethics (Content Area 1) ¹	3
			17

JUNIOR YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEG 3112 Thermodynamics II	3	CHEG 3124 Transfer Operations II	3
CHEG 3123 Fluid Mechanics	3	CHEG 3151 Process Kinetics	3
CHEG 3127 Fluid Mechanics Lab	1	CHEG 3128 Heat/Mass/Kinetics Lab	2
CHEG 3145 Chemical Engineering Analysis	3	Engineering Requirement ³	3
MCB 2000² Biochemistry with Lab	4	MCB 2610² Microbiology with Lab	4
Social Sciences (Content Area 2) ¹	3	Diversity & MultiCulture (Content Area 4) ¹	3
	17		18

SENIOR YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEG 4137W Chem Engineering Lab	3	CHEG 4137W Chem Engineering Lab	3
OR Social Sciences (Content Area 2) ¹		OR Social Sciences (Content Area 2) ¹	
CHEG 4140 Capstone Design 1	1	CHEG 4147 Process Dynamics & Control	3
CHEG 4142 Unit Ops & Process Simulation Lab	3	CHEG 4143 Capstone Design 2	3
MCB Requirement²	4	CHEG Requirement ³	3
CHEG Requirement ³	3	Engineering Requirement ³	3
	17		15

Total 135 credits

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 an international course. One course in Content Area 4 may also satisfy a Content Area 1 or 2 requirement.

² The MCB minor requires 15 credits of 2000 level MCB courses including MCB 2000 or 3010, 2210 or 2610 and 2410 or 2413 or 3201 or 3617, with a grade of C or better in each course. Students wishing to complete the 15 credits requirement with 4 courses are advised to take MCB 2000 and 2610 and two classes totaling 7 credits. See also the MCB minor checklist <http://www.mcb.uconn.edu/undergraduate/MCBminor.pdf>.

³ CHEG Requirements are satisfied by any 2000 level chemical engineering course; Engineering Requirements are satisfied by any 2000 level engineering course.

Chemical Engineering Major – Pre-Med/Pre-Dental Curriculum

FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEM 1127Q General Chemistry	4	CHEM 1128Q General Chemistry	4
MATH 1131Q Calculus I	4	MATH 1132Q Calculus II	4
ENGR 1000 Orientation to Engineering	1	ENGR 1166 Foundations of Engineering	3
CSE 1010C Intro to Computing	3	BIOL 1107 Principles of Biology I with Lab	4
ENGL 1010 or 1011 Academic Writing	4	English Course W (pre-med)	3
Arts & Humanities (Content Area 1) ¹	3		
	19		18

SOPHOMORE YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
PHYS 1501Q Eng Physics I with Lab	4	PHYS 1502Q Eng Physics II with Lab	4
CHEM 2443 Organic Chemistry	3	CHEM 2444 Organic Chemistry	3
MATH 2110Q Multivariable Calculus	4	CHEM 2446 Organic Chemistry Lab	1
CHEG 2103 Intro to Chem Engineering	3	MATH 2410Q Diff Equations	3
BIOL 1108 Principles of Biology II with Lab	4	CHEG 2111 Thermodynamics I	3
		PHIL 1104 Ethics (Content Area 1) ¹	3
	18		17

JUNIOR YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEG 3112 Thermodynamics II	3	CHEG 3124 Transfer Operations II	3
CHEG 3123 Fluid Mechanics	3	CHEG 3151 Process Kinetics	3
CHEG 3127 Fluid Mechanics Lab	1	CHEG 3128 Heat/Mass/Kinetics Lab	2
CHEG 3145 Chemical Engineering Analysis	3	Engineering Requirement ³	3
MCB 2000 ² Biochemistry with Lab	4	Pre-med prep (Genetics w/Lab, MCB 2413) ²	4
Social Sciences (Content Area 2) ¹	3	Diversity & MultiCulture (Content Area 4) ¹	3
	18		18

SENIOR YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEG 4140 Capstone Design 1	1	CHEG 4137W Chem Engineering Lab	3
CHEG 4147 Process Dynamics & Control	3	CHEG 4143 Capstone Design 2	3
CHEG 4142 Unit Ops & Process Simulation Lab	3	Engineering Requirement ³	3
CHEG Requirement ³	3	CHEG Requirement ³	3
Pre-med prep (Microbio w/Lab, MCB 2610) ²	4	Pre-med prep (Anatomy w/Lab, PNB 2275)	4
Social Sciences (Content Area 2) ¹	3		
	17		16

Total 141 credits

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 an international course. One course in Content Area 4 may also satisfy a Content Area 1 or a Content Area 2 requirement.

² At a minimum, in addition to chemistry and physics courses required by CHEG, medical schools require two semesters of biology and two semesters of English. Dental schools require four semesters of biology. Students interested in medical graduate programs are strongly encouraged to register at <http://premed.uconn.edu> to receive the latest guidance from a *pre-med advisor*.

³ CHEG Requirements are satisfied by any 2000 level chemical engineering course; Engineering Requirements are satisfied by any 2000 level engineering course.

Chemical Engineering Major – Engineering Management Minor

FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEM 1127Q General Chemistry	4	CHEM 1128Q General Chemistry	4
MATH 1131Q Calculus I	4	MATH 1132Q Calculus II	4
ENGR 1000 Orientation to Engineering	1	ENGR 1166 Foundations of Engineering	3
CSE 1010C Intro to Computing	3	Arts & Humanities (Content Area 1) ¹	3
ENGL 1010 or 1011 Academic Writing	4	Social Sciences (Content Area 2) ¹	3
	16		17

SOPHOMORE YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
PHYS 1501Q Eng Physics I	4	PHYS 1502Q Eng Physics II	4
CHEM 2443 Organic Chemistry	3	CHEM 2446 Organic Chemistry Lab	1
MATH 2110Q Multivariable Calculus	4	CHEM 2444 Organic Chemistry	3
CHEG 2103 Intro to Chem Engineering	3	MATH 2410Q Diff Equations	3
MEM 2221 or BADM 3761 Principles of Engr Mgmt ²	3	CHEG 2111 Thermodynamics I	3
		STAT 1100Q Elem. Conc. of Statistics ²	4
	17		18

JUNIOR YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEG 3112 Thermodynamics II	3	CHEG 3124 Heat & Mass Transfer	3
CHEG 3123 Fluid Mechanics	3	CHEG 3151 Process Kinetics	3
CHEG 3127 Fluid Mechanics Lab	1	CHEG 3128 Heat/Mass/Kinetics Lab	2
CHEG 3145 Chemical Engineering Analysis	3	MEM 2211 Intro to Manufac. Systems ²	3
BADM/OPIM Elective ²	3	Diversity and Multiculture (Content Area 4) ¹	3
MCB/Biology/CHEM Requirement ⁴	4	Social Sciences (Content Area 2) ¹	3
	17		17

SENIOR YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEG 4137W Chem Engineering Lab	3	OPIM 3801 Principles of Proj. Mgmt.	3
CHEG 4140 Capstone Design 1	1	CHEG 4147 Process Dynamics & Control	3
CHEG 4142 Unit Ops & Process Simulation Lab	3	CHEG 4143 Capstone Design 2	3
Diversity and Multiculture (Content Area 4) ¹	3	CHEG Requirement ³	3
CHEG Requirement ³	3	Professional Requirement ³	3
BADM/OPIM Elective ²	3	PHIL 1104 Ethics	3
	16		18

Total 136 credits

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 an international course. One CA 4 may also satisfy a CA 1 or 2 requirement.

² The MEM minor elective courses can be chosen from the following courses: BADM 3741, 3742, 2710, 3730*, 3750*, 3760 (or OPIM 3103*), or OPIM 4895 *[BADM 3730 has the following prerequisites: ACCT 2001, ACCT 2101/BADM 2710, ECON 1200 or ECON 1201/1202, and STAT 1100][BADM 3750 has the following prerequisites: ACCT 2001, ECON 1200 or ECON 1201/1202, MATH 1131Q and STAT 1100Q][OPIM 3103 has the following prerequisites: ACCT 2001]

³ CHEG Requirements are satisfied by any 2000 level chemical engineering course. A full list can be found at <http://www.cbe.engr.uconn.edu/wp-content/uploads/2013/03/roadmapsCBE2014.pdf>

⁴ MCB/Biology/CHEM requirement may be satisfied by the following courses: Principles of Biology (BIOL 1107/1108 – 4 credits), Introduction to Biochemistry (MCB 2000 – 4 credits), Biochemistry (MCB 3010 – 5 credits) or Fundamentals of Microbiology (MCB 2610 – 4 credits), Physical Chemistry (CHEM 3563 - 4 credits), Analytical Chemistry (CHEM 3332 - 4 credits), Physical Chemistry 2 (CHEM 3564 - 4 credits) or others by petition.

Chemical Engineering Major – EUROTECH Program

FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEM 1127Q General Chemistry	4	CHEM 1128Q General Chemistry	4
MATH 1131Q Calculus I	4	MATH 1132Q Calculus II	4
ENGR 1000 Orientation to Engineering	1	ENGR 1166 Foundations of Engineering	3
CSE 1010C Intro to Computing	3	ENGL 1010/1011 Academic Writing	4
Social Sciences (CA 2) ¹	3	GERM 1132 Elementary German II	4
GERM 1131 Elementary German I	4		
	19		19

SOPHOMORE YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
PHYS 1501Q Eng Physics I	4	PHYS 1502Q Eng Physics II	4
CHEM 2443 Organic Chemistry	3	CHEM 2446 Organic Chemistry Lab	1
MATH 2110Q Multivariable Calculus	4	CHEM 2444 Organic Chemistry	3
CHEG 2103 Intro to Chem Engineering	3	MATH 2410Q Diff Equations	3
GERM 1133 Intermediate German I	3	CHEG 2111 Thermodynamics I	3
GERM 3220 Germ. Rec. in App. Math	1	GERM 1134 Intermediate German II	4
		GERM 3221 Intro. to Sci. in German	1
	18		19

JUNIOR YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEG 3112 Thermodynamics II	3	CHEG 3124 Heat & Mass Transfer	3
CHEG 3123 Fluid Mechanics	3	CHEG 3151 Process Kinetics	3
CHEG 3127 Fluid Mechanics Lab	1	CHEG 3128 Heat/Mass/Kinetics Lab	2
CHEG 3145 Chemical Engineering Analysis	3	Engineering Requirement ²	3
GERM 3233 Building Lang. Skills Thru Culture I	3	GERM 3234 Building Lang. Skills Thru Culture II	3
GERM 3222 Fields of Technology	1	GERM 3251 or 3258 (CA 4, CA 1E)	3
MCB/Biology/CHEM Requirement ³	4		
	18		17

PRE-SENIOR YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
GERM 3293 ¹ Transfer Credits to be used at UCONN	12	ENGR 3181 Eurotech Internship Abroad	0
ENGR 3181 Eurotech Internship Abroad	0	GERM 3292 German Language Practicum	6
		GERM 3293 ¹ Transfer Credits to be used at UCONN	6
	12		12

SENIOR YEAR

<i>First Semester</i>	<i>Credits</i>	<i>Second Semester</i>	<i>Credits</i>
CHEG 4137W Chem Engineering Lab	3	GERM 4246 Capstone in German Studies	3
CHEG 4140 Capstone Design 1	1	CHEG 4147 Process Dynamics & Control	3
CHEG 4142 Unit Ops & Process Simulation Lab	3	CHEG 4143 Capstone Design 2	3
GERM 3255W Studies in 20th Cent. Lit. (CA 1B)	3	CHEG Requirement ²	3
CHEG Requirement ²	3	Professional Requirement ²	3
Engineering Requirement ²	3	PHIL 1104 Ethics (CA 1D)	3
	16		18

Total 168 credits

¹ Students typically take 18-24 credits while studying abroad in Germany. Of these, students should plan to take courses that will fulfill the following degree requirements: One CA 2 (Social Sciences) Course, one CA 4 (Diversity and Multiculturalism), one CA 1A (Arts) elective, one CA 1C (History) elective. Note that CA 1 courses cannot be PHIL or GERM, as there is a requirement that CA 1 courses come from 4 different academic units. CA 2 courses must also come from different academic units. It is also strongly recommended that students take GERM 3261W 'German Film and Culture' in the Spring Semester when available.

² CHEG Requirements are satisfied by any 2000 level chemical engineering course. Engineering Requirements are satisfied by any 2000 level course in the School of Engineering. Professional Requirements are any 2000 level science, engineering, or mathematics course. A full list can be found at <http://www.cbe.engr.uconn.edu/wp-content/uploads/2013/03/roadmapsCBE2014.pdf>

³ MCB/Biology/CHEM requirement may be satisfied by the following courses: Principles of Biology (BIOL 1107/1108 – 4 credits), Introduction to Biochemistry (MCB 2000 – 4 credits), Biochemistry (MCB 3010 – 5 credits) or Fundamentals of Microbiology (MCB 2610 – 4 credits), Physical Chemistry (CHEM 3563 - 4 credits), Analytical Chemistry (CHEM 3332 - 4 credits), Physical Chemistry 2 (CHEM 3564 - 4 credits) or others by petition.