

CHEMICAL ENGINEERING

Biomolecular Engineering Concentration
 Courses highlighted below are available at Charleston Southern

Curriculum Example*

FRESHMAN YEAR

_____ 4 CH 1010 General Chemistry
 _____ 3 ENGL 1030 Accelerated Composition
 _____ 2 ENGR 1020 Engineering Discipline and Skills⁴
 _____ 4 MATH 1060 Calculus of One Variable I
 _____ 3 Gen Ed¹
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_____ 4 CH 1020 General Chemistry
 _____ 3 CHE 1300 Intro to Chemical Engineering
 _____ 4 MATH 1080 Calculus of One Variable II
 _____ 3 PHYS 1220 Physics with Calculus I
 _____ 3 Gen Ed¹
 17

SOPHOMORE YEAR

_____ 5 BIOL 1100 Principles of Biology I
 _____ 3 CH 2230 Organic Chemistry
 _____ 4 CHE 2110 Mass and Energy Balances
 _____ 4 MATH 2060 Calculus of Several Variables
 _____ 3 Gen Ed¹
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_____ 3 CH 2240 Organic Chemistry
 _____ 1 CH 2290 Organic Chemistry Lab.
 _____ 3 CHE 2200 Chemical Engr. Thermodynamics I
 _____ 4 CHE 2300 Fluids/Heat Transfer
 _____ 4 MATH 2080 Int. to Ordinary Differential Eqtns
 15

JUNIOR YEAR

_____ 3 CHE 3210 Chemical Engr. Thermodynamics II
 _____ 4 CHE 3300 Mass Transfer and Separation Proc.
 _____ 3 PHYS 2210 Physics with Calculus II
 _____ 3 STAT 4110 Statistical Methods for Process Dev. and Control
 _____ 3 Biochemistry Requirement²
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_____ 3 BIOE 3020 Biomaterials
 _____ 2 BIOL 4340 Biological Chem. Lab. Techniques
 _____ 3 BMOL 4250 Biomolecular Engineering
 _____ 3 CHE 3070 Unit Operations Lab. I
 _____ 3 CHE 3190 Engineering Materials
 _____ 3 Gen Ed¹
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SENIOR YEAR

_____ 3 BCHM 4310 Physical Approach to Biochem.
 _____ 3 CHE 4070 Unit Operations Lab. II
 _____ 3 CHE 4310 Chemical Process Design I
 _____ 2 CHE 4430 Safety, Environ & Prof. Practice I
 _____ 3 CHE 4500 Chemical Reaction Engineering
 _____ 3 Gen Ed¹
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_____ 3 BMOL 4290 Bioprocess Engineering
 _____ 3 CHE 3530 Process Dynamics and Control
 _____ 3 CHE 4330 Process Design II
 _____ 1 CHE 4440 Safety, Environ & Prof. Practice II
 _____ 3 Gen Ed¹
 _____ 3 Engineering Requirement³
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133 Total Semester Hours

All Clemson engineering students begin in our General Engineering program and move into their specified major once the departmental standards are completed. Clemson courses ENGL 1030, MATH 1060 and 1080, PHYS 1220, CH 1010, ENGR 1020 and ENGR 1410/or CHE 1300 must all be completed with a "C" or higher before declaring and starting courses in your engineering major.

Footnotes:

¹ See Policy on Humanities and Social Sciences for Engineering Curricula. Six of these credit hours must also satisfy the Cross-Cultural Awareness and Science and Technology in Society Requirements.

² Select from BCHM 3010, BCHM 3050, BCHM 4230 or CH 3600

³ Select from BE 4280, BE 4350, BIOE 4400, BIOE 4490, BIOE 4760, BMOL 4030, BMOL 4270, CHE 4010 or MICR 4130

⁴ ENGR 1050 and ENGR 1060 may be substituted for ENGR 1020

- CHE 1300 is only taught in the Spring and Summer.

- CHE 2000 level classes are taught ONCE per year and NOT in the summer.

*See catalog for current curriculum at catalog.clemson.edu

General Education Requirements

LIT	Non-Lit	SS1	SS2	5th and 6th	CCA	STS

Comments: