

# CHEMICAL ENGINEERING

Courses highlighted below are available at Anderson University  
 Biomolecular Engineering Concentration  
 Curriculum Example\*

## FRESHMAN YEAR

\_\_\_\_\_ 4 CH 1010 General Chemistry  
 \_\_\_\_\_ 3 ENGL 1030 Accelerated Composition  
 \_\_\_\_\_ 2 ENGR 1020 Engineering Discipline and Skills<sup>4</sup>  
 \_\_\_\_\_ 4 MATH 1060 Calculus of One Variable I  
 \_\_\_\_\_ 3 Gen Ed<sup>1</sup>  
 16

\_\_\_\_\_ 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 Ed<sup>1</sup>  
 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 Ed<sup>1</sup>  
 19

\_\_\_\_\_ 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 Requirement<sup>2</sup>  
 16

\_\_\_\_\_ 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 Ed<sup>1</sup>  
 17

## 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 Ed<sup>1</sup>  
 17

\_\_\_\_\_ 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 Ed<sup>1</sup>  
 \_\_\_\_\_ 3 Engineering Requirement<sup>3</sup>  
 16

**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

**Footnotes:** and ENGR 1410/or CHE 1300 must all be completed with a "C" or higher before declaring and starting courses in your engineering major.

<sup>1</sup> 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.

<sup>2</sup> Select from BCHM 3010, BCHM 3050, BCHM 4230 or CH 3600

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

<sup>4</sup> 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](http://catalog.clemson.edu)

### General Education Requirements

LIT	Non-Lit	SS1	SS2	5th, 6th Gen Eds	CCA	STS

**Comments:**