

Dual-Degree Engineering Program Suggested Courses*: **Chemistry and Chemical Engineering**

Year 1 (at Coastal Carolina University)

Fall (17 credits)

3- ENGL 101	Composition
4- MATH 160	<u>Applied Calculus 1</u>
3- CHEM 111	<u>General Chemistry 1</u>
1- CHEM 111L	<u>General Chemistry 1 Lab</u>
3- ENGR 101	Introduction to Engineering (comm., intensive)
3- FLAN 130	Foreign Language, Intermediate Level

Spring (15 credits)

3- ENGL 102	Composition and Literature
4- MATH 161	<u>Applied Calculus 2</u>
3- CHEM 112	<u>General Chemistry 2</u>
1- CHEM 112L	<u>General Chemistry 2 Lab</u>
3- PHYS 211	<u>Essentials of Physics 1</u>
1- PHYS 211L	<u>Essentials of Physics 1 Lab</u>

Year 2 (at Coastal Carolina University)

Fall (15 credits)

4- MATH 260	<u>Applied Calculus 3</u>
3- PHYS 212	<u>Essentials of Physics 2</u>
1- PHYS 212L	<u>Essentials of Physics 2 Lab</u>
3- CHEM 150	<u>Chemistry Seminar</u>
3- CHEM 321	Quantitative Analysis
1- CHEM 321L	Quantitative Analysis Lab

Summer I (4 credits)

3- CHEM 331	Organic Chemistry 1
1- CHEM 331L	Organic Chemistry 1 Lab

Spring (14-15 credits)

3- MATH 320	Elem. Differential Equations
<u>MATH 242 (3) or PHYS 330 (4)</u>	
3- CHEM 422	Instrumental Analysis
1- CHEM 422L	Instrumental Analysis Lab
1- CHEM 399	Independent Study (Research)
3- HIST 101/2, HIST 202, PHIL 101/2	

Summer II (4 credits)

3- CHEM 332	Organic Chemistry 2
1- CHEM 332L	Organic Chemistry 2 Lab

Year 3 (at Coastal Carolina University)

Fall (17 credits)

3- CHEM 351	Biochemistry I
1- CHEM 351L	Biochemistry I Lab
3- CHEM 441	Physical Chemistry 1
1- CHEM 441L	Physical Chemistry 1 Lab
3- ENGL 200, ENGL 287/8	
3- ARTH 105/6, ARTS 103/4, ENGL 201, MUS 110, THEA 101, THEA 210	

These courses will be granted from Clemson to fulfill CCU Chemistry Major

3- ECON 111, HPRO 121, EXSS 122, RSM 120, PSYC 101, SOC 101 (Xfr backClemson's SST)

3- CHEM 499 **Undergraduate Research (Xfr back from Clemson by doing Undergraduate Research)**

Spring (14 credits)

3- CHEM 411	Inorganic Chemistry
1- CHEM 411L	Inorganic Chemistry Lab
3- CHEM 442	Physical Chemistry 2
1- CHEM 442L	Physical Chemistry 2 Lab
3- ENGL 277, GEOG 121, HIST 111/2, HON 101, POLI 101, RELG 103 (CCA focus)	
3- HIST 201, POLI 201	

Year 1 (at Clemson University)

Fall (16 credits)

2- CES 102	Engineering Disciplines and Skills
4- CH 101	General Chemistry
3- ENGL 103	Accelerated Composition
4- MTHSC 106	Calculus of One Variables I
3- Arts & Humanities Requirement	<i>or</i>
3- Social Science Requirement	

Spring (17 credits)

4- CH 102	General Chemistry
3- CH E 130	Chemical Engineering Tools
4- MTHSC 108	Calculus of One Variable II
3- PHYS 122	Physics with Calculus I
3- Arts & Humanities Requirement	<i>or</i>
3- Social Science Requirement	

Year 2 (at Clemson University)

Fall (17 credits)

3- CH 223	Organic Chemistry
4- CH E 211	Intro. to Chemical Engineering
4- MTHSC 206	Calculus of Several Variables
3- PHYS 221	Physics with Calculus II
3- Arts & Humanities Requirement	

Spring (15 credits)

3- CH 224	Organic Chemistry
1- CH 229	Organic Chemistry Lab.
3- CH E 220	Chemical Engr. Thermodynamics I
4- CH E 230	Fluid/Heat Transfer
4- MTHSC 208	Intro. to Ordinary Different Equations

Year 3 (at Clemson University)

Fall (16 credits)

3- BIOCH 301	Molecular Biochemistry
1- CH 339	Physical Chemistry Lab.
3- CH E 307	Unit Operations Lab. I
3- CH E 319	Engineering Materials
2- E C E 307	Basic Electrical Engineering
1- E C E 309	Electrical Engineering Lab. I
3- Arts & Humanities Requirement	<i>or</i>
3- Social Science Requirements	

Spring (17 credits)

3- CH 332	Physical Chemistry
1- CH 340	Physical Chemistry Lab.
3- CH E 321	Chemical Engr. Thermodynamics II
4- CH E 330	Mass Transfer and Separation Processes
3- Arts & Humanities Requirement	<i>or</i>
3- Social Science Requirement	
3- Emphasis Area	

Year 4 (at Clemson University)

Fall (16 credits)

3- CH E 407	Unit Operations Lab. II
3- CH E 431	Chemical Process Design I
1- CH E 443	Chemical Engr. Senior Seminar I
3- CH E 450	Chemical Reaction Engineering
3- Arts & Humanities Requirement	
3- Social Science Requirement (SST Focus)	
3- Emphasis Area	

Spring (16 credits)

3- CH E 353	Process Dynamics and Control
3- CH E 433	Process Design II
1- CH E 444	Chemical Engr. Senior Seminar II
3- MICRO 413	Industrial Microbiology
3- Emphasis Area	
3- Undergraduate Research	

Red text → Courses that fulfill CCU Core Requirement

Red text → Courses that fulfill CCU Foundation Requirement

Red text → Courses that fulfill CCU Major Requirement

Green text → Courses that can be taken at CCU

Taking a few summer Engineering courses at Clemson prior to transferring is HIGHLY recommended.

* based on 2007-2008 CCU Catalog and 2006-2007 Clemson Catalog

CCA → Clemson's Cross-Cultural Awareness Theme

SST → Clemson's Society, Science, Technology Theme