

**Transfer Pathway: Associate of Applied Science in Engineering Fundamentals Concentration in Chemical Engineering  
to Bachelor of Science in Engineering in Chemical Engineering**

Bulletin Year: 2021-2022

This course plan is a recommended sequence for this major. Please see the University of South Carolina Bulletin for detailed degree requirements and contact your academic advisor for assistance in the application of specific coursework to a program of study and course selection and planning for upcoming semesters.

Course Subject and Title	Credit Hours	Min. Grade	UofSC Equivalent Course	UofSC Degree Applicability
<b>Semester One (17 Credit Hours)</b>				
EGR 270 Introduction to Engineering	3	C	ENCP 101 Intro to Engineering I (counts toward ECHE 101 Introduction to Chemical Engineering)	Elective
ENG 101 English Composition I	3	C	ENGL 101 Critical Reading and Composition	CC-CMW
MAT 110 College Algebra (7 week course)*	3	C	MATH 111 Basic College Mathematics	Pre-req
MAT 111 College Trigonometry (7 week course)*	3	C	MATH 112 Trigonometry	Pre-req
CHM 110 College Chemistry I	4	C	CHEM 111 General Chemistry and CHEM 111L General Chemistry I Lab	CC-SCI
COL 101 College Orientation	1		Non-transferable	
<b>Semester Two (14 Credit Hours)</b>				
MAT 140 Analytical Geometry and Calculus I	4	C	MATH 141 Calculus 1	CC-ARP
ENG 102 English Composition II	3	C	ENGL 102 Rhetoric and Composition	CC-CMW/INF
CHM 111 College Chemistry II	4	C	CHEM 112 General Chemistry II and CHEM 112L General Chemistry II Lab	CC-SCI
PSC 201 American Government	3	C	POLI 201 American National Government	CC-GSS, Founding Documents
<b>Semester Three - Summer (15 Credit Hours)</b>				
EGR 280 Chemical Process Principles	3	C	ECHE 300 Chemical Process Principles	PR
CHM 211 Organic Chemistry I	4	C	CHEM 333 Organic Chemistry I and CHEM 331L Organic Chemistry I Lab	PR
MAT 141 Analytical Geometry and Calculus II	4	C	MATH 142 Calculus II	CC-ARP
PHY 221 University Physics I	4	C	PHYS 211 Essentials of Physics I and PHYS 211L Essentials of Physics I Lab	CC-SCI
<b>Semester Four (15 Credit Hours)</b>				
PHY 222 University Physics II	4	C	PHYS 212 Essentials of Physics II and PHYS 212L Essentials of Physics II Lab	PR
EGR 274 Engineering Application of Numerical Methods	3	C	Technical Elective	PR
CHM 212 Organic Chemistry II	4	C	CHEM 334 Organic Chemistry II and CHEM 332L Organic Chemistry II Lab	PR
MAT 240 Analytical Geometry and Calculus III	4	C	MATH 241 Vector Calculus	PR
<b>Semester Five (16 Credit Hours)</b>				
EGR 268 Engineering Fluid Mechanics	3	C	ENCP 360 Fluid Mechanics (counts toward ECHE 320 Chemical Engineering Fluid Mechanics)	PR
HIS 101 Western Civilization to 1689	3	C	GHS Transfer Course	MR
MAT 242 Differential Equations	4	C	MATH 242 Elem. Differential Equations	PR
EGR 266 Engineering Thermodynamics Fundamentals	3		ENCP 290 Thermodynamic Fundamentals (counts toward ECHE 310 Intro to Chemical Engineering Thermodynamics)	PR
THE 101 Introduction to Theater	3	C	Carolina Core AIU	CC-AIU
Course Subject and Title	Credit Hours	Min. Grade	MTC Equivalent Course Option to take during summer or as transient student	UofSC Degree Applicability
<b>Semester Six (16 Credit Hours)</b>				
ECHE 456 Computational Methods for Engineering Applications	3			MR
ECHE 321 Heat-Flow Analysis (Fall only)	3			MR
ECHE 440 Separation Process Design (Fall only)	3			MR
ECHE 311 Chem. Engr. Thermodynamics	3			PR
PHIL 325 Engineering Ethics	3			CC-CMS/VSR
Professional Development Elective	1			PR
<b>Semester Seven (18 Credit Hours)</b>				
ECHE 322 Mass Transfer (Spring only)	3			MR
ECHE 460 Chemical Engineering Lab 1 (Spring only)	3			MR
CSCE 145 Algorithmic Design I			EGR 281 Engineering Fluid Mechanics	PR
Engineering Elective	3		Engineering Elective (ex: EGR 260, EGR 274, EGR 262, ECE 211, ECE 212, or other)	PR
Technical Elective	3		Technical elective (ex: BIO 101, BIO 102, BIO	PR

		225, EGR 283, other)	
Technical Elective	3	Technical Elective (ex: BIO 101, BIO 102, BIO 225, EGR 283, etc.)	PR
<b>Semester Eight (15 Credit Hours)</b>			
ECHE 430 Chemical Engineering Kinetics (Fall only)	3		MR
ECHE 461 Chemical Engineering Lab II (Fall only)	3		MR
ECHE 465 Chemical Process Analysis & Design I (Fall only)	3		MR
Chemistry Elective	3		PR
ECHE 550 Chem.-Proc. Dynamics & Control (Fall only)	3		MR
<b>Semester Nine (15 Credit Hours)</b>			
ECHE 466 Chemical Process Analysis & Design II (Spring only)	3		MR/CC-INT
ECHE 567 Process Safety, Health & Loss Prev. (Spring only)	3		MR
Chemistry Elective	3		PR
Liberal Arts Elective	3	Any AIU, GHS, GSS Transfer Course - 300 level in same discipline as Carolina Core or PHI 101, 105, 106	PR
Engineering Elective	3	Engineering Elective (ex: EGR 260, EGR 274, EGR 262, ECE 211, ECE 212, etc.)	PR
<b>Take during any semester (0-9 Credit Hours)</b>			
Carolina Core GFL	0-6		CC-GFL

\* Students may place into and begin with MAT 140.

Approved December 2021