



Degree Requirements: Chemistry (340)–Bachelor of Science

School of Arts and Sciences

Department of Chemistry, Physics, and Engineering

Catalog Year: 2020-2021

General Education Requirements (44–46 hours)		
Communication (9 hours)	American History (3 hours)	Behavioral Science (3 hours)
ENGL 1113; ENGL 1213; COMM 1113	HIST 1483 or 1493	FAMS 1123, PSY 1113, SOCI 1113, HON 2133
Mathematics (5 hours)	Political Science (3 hours)	Economics (3 hours)
MATH 2215	PS 1113	AGRC 2013, ECON 2003, ECON 2013, GEOG 3023
Science* (9 hours)	Humanities (6 hours)	Health and Wellness* (4 hours)
Biological Science (4 hours) Physical Science: CHEM 1361/1364 *One course must be a lab science; see Gen Ed course list.	Diversity (3 hours) Aesthetics (3 hours) *One course must be taken from each category; see Gen Ed course list.	SES 2003, 2013, 2023, MSL 1112, PE 1--1, 2--1, 2--2 *Requirement waived for some students; see Gen Ed course list.
General Education Electives (To total at least 44 hours, if needed)*.		
*Must be selected from the list of approved general education courses (MSL and PE prefixes excluded).		
University Requirements		
UNIV 1001 or 1113-1-3 hours	Computer Literacy–CHEM 1361	Capstone Experience–CHEM 4541
Major Requirements (56–66 hours)		
Required Core Courses (25 hours)	Concentration or Options (31–41 hours)	
CHEM 1361/1364 General Chemistry Lab I (FA, SP) CHEM 1471/1474 General Chemistry Lab II (FA, SP) CHEM 2541 Introduction to Chemical Literature (FA) CHEM 3113 Fund of Analytical Chemistry (FA, Odd SP) CHEM 3232 Quantitative Analysis Lab (FA, Odd SP) CHEM 3314 Organic Chemistry I (FA, SP) CHEM 3324 Organic Chemistry II (FA, SP) CHEM 4541 Chemistry Capstone (SP) *Students must maintain an overall 2.0 GPA for all Major courses. <i>FA=Fall; SP=Spring; SU=Summer</i>	Majors must select from the following options: American Chem Society Certified Chemistry Degree Chemistry Degree (non-ACS Certified) (must select minor) Health Profession Chemistry Degree Option (See next page for course list)	
Additional Requirements (10 hours)		
PHYS 1115 Physics I OR 2015 Physics I for Sci & Engineering Majors (preferred) PHYS 1215 Physics II OR PHYS 2025 Physics II for Sci & Engineering Majors (preferred)		
Minor Requirements (18 hours)		
A full list of minors is available on the Cameron University website.		
General Electives (to Complete 124 hours)		
Graduation Requirements		
Department Requirements Minimum 124 Total Credit Hours Minimum 40 Upper Division Credit Hours Minimum 55 Liberal Arts & Science Credit Hours Minimum 30 Credit Hours in Residence at Cameron	Minimum 60 Credit Hours at a 4-Year Institution Minimum ½ of Major Upper Division Hours Completed at CU 15 of last 30 Credit Hours or ½ of Major Completed at CU Retention GPA 2.0; Cameron GPA 2.0 Complete Graduation Application Online	

Degree Requirements: Chemistry (340)-Bachelor of Science (Cont'd)**Option (31-41 hours)****ACS Certified Chemistry Degree (41 hours)****Required Courses (41 hours)**

CHEM 4025 Instrumental Methods of Analysis
 CHEM 4334 Advanced Inorganic Chemistry
 CHEM 4351 Physical Chemistry I Lab
 CHEM 4353 Physical Chemistry I
 CHEM 4361 Physical Chemistry II Lab II
 CHEM 4363 Physical Chemistry II
 CHEM 4401 Biochemistry I Lab
 CHEM 4403 Biochemistry I
 CHEM 4413 Biochemistry II
 CHEM 4491-3 Special Problems in Chemistry** (3 hrs max)
 MATH 2235 Calculus & Analytic Geometry II
 MATH 2244 Calculus & Analytic Geometry III
 MATH 3253 Differential Equations
 MATH 4433 Matrix Alg (preferred) **OR** MATH 2613 Fnd of Math

***Must take a min of 2 cr hrs of Special Problems in Research.*

Electives (0-4 hours)

CHEM 2441 Working Safely with Chemicals
 CHEM 3334 Chemistry of Water & Wastewater
 CHEM 3343 Organic Analysis
 CHEM 4332 Adv Inorganic Chemistry Lab
 CHEM 4401 Biochemistry I Lab
 CHEM 4411 Biochemistry II Lab
 CHEM 4481-3 Adv Topics in Chemistry

Chemistry Degree (non-ACS Certified) (31 hours)**A. Required Courses (8 hours)**

CHEM 4351 Physical Chemistry I Lab
 CHEM 4353 Physical Chemistry I
 CHEM 4401 Biochemistry I Lab
 CHEM 4403 Biochemistry I

B. Required Upper Division Analytical Elective (3-5 hours)

CHEM 3334 Chemistry of Water & Wastewater **OR** CHEM 3343 Org Analysis **OR** CHEM 4025 Inst Meth of Analysis

C. Electives (2-4 hours)

CHEM 2441 Working Safely with Chemicals
 CHEM 3334 Chemistry of Water & Wastewater
 CHEM 3343 Organic Analysis
 CHEM 4025 Instrumental Methods of Analysis
 CHEM 4332 Adv Inorganic Chemistry Lab
 CHEM 4334 Advanced Inorganic Chemistry
 CHEM 4361 Physical Chemistry II Lab
 CHEM 4363 Physical Chemistry II
 CHEM 4411 Biochemistry II Lab
 CHEM 4413 Biochemistry II
 CHEM 4481-3 Adv Topics in Chemistry
 CHEM 4491 Special Problems in Chemistry** (3 hrs max)

D. Minor Requirements (18 hours)**Health Profession Chemistry Degree (40 hours)****Required Courses (23 hours)**

CHEM 4401 Biochemistry I Lab
 CHEM 4403 Biochemistry I
 CHEM 4411 Biochemistry II Lab
 CHEM 4413 Biochemistry I
 BIOL 1364 Principles of Biology I
 BIOL 1474 Principles of Biology II
 BIOL 2124 Microbiology
 IT 1013 Intro to Computer Information Systems

Guided Electives (17 hours)

Must select at least one lower division course from following:

AGRC 1124 Intro to Animal Science **OR** BIOL 2034 Human Anatomy **OR** BIOL 2134 Human Physiology **OR** BIOL 2154 Zoology

Substitutions can be made for other professional health programs.

ANIM 3653 Applied Nutrition
 BIOL 3014 Principles of Genetics
 BIOL 3093 Immunology
 BIOL 3174 Molecular Cell Biology
 BIOL 4004 Physiology
 CHEM 3334 Chemistry of Water & Wastewater
 CHEM 3343 Organic Analysis
 CHEM 4025 Instrumental Methods of Analysis
 CHEM 4332 Adv Inorganic Chemistry Lab
 CHEM 4334 Advanced Inorganic Chemistry
 CHEM 4351 Physical Chemistry Lab I
 CHEM 4353 Physical Chemistry I
 CHEM 4361 Physical Chemistry Lab II
 CHEM 4363 Physical Chemistry II
 CHEM 4481-3 Adv Topics in Chemistry
 CHEM 4491 Special Problems in Chemistry**
 STAT 2013 Intro Probability & Statistics I

***Only 3 hours of CHEM 4491-3 may be counted toward elective hours for this option.*