

B.S. CHEMISTRY

CATALOG YEAR 2022-2023

GENERAL EDUCATION REQUIREMENTS

English Composition

ENGL 101 or 107 3 ____

ENGL 102 or 108 3 ____

Or

ENGL 109H 3 ____

Foundations Math *(Placement may require pre-requisite coursework prior to completion of this requirement.)*

MATH 122A & B (5) or MATH 125 (3) 3 ____

Second Language

2nd semester proficiency4-5 ____

UNIV 101: Intro to the General Education Experience..... 1 ____

Exploring Perspectives

Artist 3 ____

Humanist 3 ____

Natural Scientist 3 ____

Social Scientist..... 3 ____

Building Connections

Course 1 3 ____

Course 2 3 ____

Course 3 3 ____

UNIV301: General Education Portfolio..... 1 ____

32 Units Minimum.....32 ____

Note: 9 units may be used to fulfill GE requirements while double-dipping with requirements in a major, pre-major, or minor.

PRE-MAJOR COURSES

Mathematics (Calculus I, & Calculus II, Calculus III)

MATH 122A/B **OR** 125 3-5 ____

MATH 129 3 ____

CHEM380 (F) **OR** MATH 2233 ____

Physics (Introductory Physics)

PHYS 141 **OR** 161H3- 4 ____

PHYS 241 **OR** 261H3- 4 ____

UNIVERSITY REQUIREMENTS:

- | | |
|--|--|
| <input type="checkbox"/> 120 Total Units | <input type="checkbox"/> 42 Upper Division Units |
| <input type="checkbox"/> 2.0+ Cum GPA | <input type="checkbox"/> 2.0+ Major GPA |
| <input type="checkbox"/> MCWA | <input type="checkbox"/> 30 UA Units |
| <input type="checkbox"/> 18/30 Upper Division UA Units | |
| <input type="checkbox"/> 56+ University Units | |

CHEM MAJOR COURSEWORK

(GRADE OF C OR HIGHER REQUIRED FOR ALL MAJOR COURSEWORK)

General Chemistry (with labs)

CHEM 151 **OR** 141/143 **OR** 161/163(F)4 ____

CHEM 152 **OR** 142/144 **OR** 162/164 (S)4 ____

Organic Chemistry

First Semester Lecture and Lab

CHEM 246A (F)3 ____

CHEM 247A (F)2 ____

Second Semester Lecture and Lab

CHEM 246B (S)3 ____

CHEM 247B (S)2 ____

Major Courses

Majors Colloquium

CHEM 395A (S)1 ____

Quantitative Analysis (Analytical Chemistry)

CHEM 325 Analytical Lecture 2 ____

CHEM 326 Analytical Lab..... 2 ____

Instrumental Analysis

CHEM 401A (S)3 ____

CHEM 400A (F)3 ____

Inorganic Chemistry

CHEM 404A (S).....3 ____

CHEM 4123 ____

Biochemistry

BIOC 384 or BIOC 462A(F).....3-4 ____

Physical Chemistry

CHEM 480A3 ____

CHEM 480B or CHEM 481.....3 ____

CHEM 400B (S)3 ____

Chemistry Electives (8 units required):

8 units of electives are required. Of those 8 units, a maximum of 3 units can come from list B on the back of this page

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Total = 8 ____

Chemistry Electives A (5 units minimum)

ASTR 448A Astrochemistry (3)
BIOC 385 Biochemistry **OR** BIOC 462B (S) (3)
CHEE/CHEM/MSE 437 Surface Science (S) (3)
CHEM 404B Inorganic Chemistry II (F) (3)
CHEM 446 Organic Preparations Lab (F) (3)
CHEM 447 Organic Structural Analysis Laboratory (S) (3)
CHEM 450 Synthetic and Mechanistic Organic Chemistry (F) (3)
ENVS 340 Environmental Chemistry (S) (3)
ENVS 462 Environmental Soil and Water Chemistry (3)
ENVS 464 Environmental Organic Chemistry (F) (3)
GEOS 400 Introduction to Geochemistry (Contact department) (3)
MSE 430 Organic Electronic Materials & Devices (F) (3)
MSE 460 Materials Science of Polymers (S) (3)
PCOL 350 ADME: How the Body Changes Drugs (3)
PCOL 410 Medicinal Chemistry (S) (5)
PHYS 426 Thermal Physics (F, S) (3)
PHYS 431 Molecular Biophysics (S, odd years only) (3)
PHYS 484 Nuclear Magnetic Resonance Spectroscopy (F) (3) PLS
448A Plant Biochemistry and Metabolic Engineering (F) (3) PTYS
407 Chemistry of the Solar System (F, odd years only) (3) PTYS
416 Asteroids, Comets, Kuiper Belt Objects (F) (3)

Chemistry Electives B (3 units maximum)

CHEM 496D Chemistry Discovery (F) (1)
CHEM 392/492 Directed Research*
CHEM 399/499 Independent Study*
CHEM 399H/499H, Honors Independent Study*
CHEM 405A Basic Lab Safety (1) (S)
CHEM 405B Advanced Lab Safety (1) (S)
CHEM 405C Chemical Hygiene and Regulations (1) (S)
CHEM 491 Preceptorship*
CHEM 491H Honors Preceptorship*
CHEM 493 Internship*
CHEM 498 Senior Capstone *

If having difficulty enrolling or have questions, contact the department offering the course.

*Requires completion of appropriate forms in order to add units.
Forms can be found on CBC website.

Course descriptions/pre-requisites found in catalog or class schedule.

500 level CHEM courses also approved. 500 level courses in other departments may be pre-approved. Contact a CBC advisor.