



## CHEMISTRY

### What YOU will learn:

Often described as the “central science,” chemistry focuses on the structure, properties, and synthesis of matter, which includes virtually everything--the plastics we use everyday, the medicines we take, the clothing we wear, the air we breath, and even the building blocks of life (e.g., DNA). As a chemistry major, you will master the process of scientific inquiry, become proficient in modern laboratory procedures, develop foundational knowledge in all areas of the chemical sciences (organic, inorganic, physical, analytical, and biochemistry), understand the practical and ethical relationship between chemistry and society, take part in cutting-edge research, and, perhaps most importantly, gain the training necessary to function and succeed in one of the largest industries worldwide.

Early on you will be introduced to all the exciting career opportunities in chemistry, along with the innovative research being conducted by our faculty--research you will have the opportunity to take part in. Our curriculum includes fundamental courses in chemistry, math, and physics, as well as specialized courses such as Biomolecules and Metabolism, Gene Expression and Replication, Plant Biochemistry, and The Science of Food, that enable students to customize their education based upon individual interests.

### Career opportunities YOU will have:

A major in chemistry opens the door to many careers. Some may be obvious including pharmaceutical development, chemical research and manufacturing, analysis, and science education. Environmental science, medicine, pharmacy, forensics, plant science, and law--are not as obvious. Employment of recent Nebraska graduates with a major in Chemistry includes:

- Associate Analyst, Celerion
- Chemist, Albaugh Inc
- Chemist, HHSS NE State Lab
- Contract Analyst, Aerotek
- Communications/Signals Intelligence Apprentice, US Air Force
- Lab Tech, University of Nebraska-Lincoln
- Nuclear Propulsion Officer, US Navy
- OIS Implementation Analyst, TELCOR
- Product Associate, LI-COR Biosciences
- Quality Assurance Technician, Aerotek

### Why NEBRASKA for Chemistry?

The Department of Chemistry boasts a tradition of innovation and excellence offering students a world-class education with a small community feel. You will have access to one of the largest structures in the nation dedicated solely to chemistry featuring newly renovated labs. In addition, you will benefit from personalized mentoring and small group collaboration as part of faculty research projects and instruction.

Picture yourself engaging in research similar to these current student projects: *Probing Question Order Effect in Chemistry Concept Inventories* or *Split-Luciferase Sensors for Protein Kinases*. Get involved on campus while connecting with other student chemists by joining Chemistry Club, a group dedicated to having fun with chemistry, learning alongside each other, and taking trips to workplaces within the field or by getting elected into Phi Lambda Upsilon - Honorary Chemical Society.



# COLLEGE OF ARTS AND SCIENCES

## CHEMISTRY

	COURSE NAME	HOURS
<b>FIRST Semester</b>	CHEM 109: General Chemistry I	4
	PHYS 141: Elementary General Physics I	5
	CHEM 101: Career Opportunities in Chemistry	1
	MATH 106: Calculus I (ACE 3)	5
	Total Hours	16

	COURSE NAME	HOURS
<b>SECOND Semester</b>	MATH 107: Calculus II (CDR F)	4
	CHEM 110: General Chemistry II	4
	PHYS 142: Elementary General Physics II	5
	ACE 2: Communication skills	3
	Total Hours	16

<b>THIRD Semester</b>	CHEM 221: Elementary Quantitative Analysis	4
	CHEM 251: Organic Chemistry	3
	CHEM 253: Organic Chemistry Laboratory (CDR BL)	1
	ACE 1: Written texts/research & knowledge skills	3
	Language Prerequisite - 101 Level (Elective)	5
	Total Hours	16

<b>FOURTH Semester</b>	CHEM 252: Organic Chemistry II	3
	CHEM 254: Organic Chemistry II Laboratory	1
	CDR A: Written communication	3
	Elective/Minor/Secondary Major/Science/Pre-Professional	3
	Language Prerequisite - 102 Level (Elective)	5
	Total Hours	15

<b>FIFTH Semester</b>	BIOC 431/831: Structure & Metabolism	3
	BIOC 433/833: Biochemistry Laboratory	2
	CHEM 471/871: Physical Chemistry	4
	Language Requirement - 201 Level (CDR E)	3
	Elective/Minor/Secondary Major/Science/Pre-Professional	3
	Total Hours	15

<b>SIXTH Semester</b>	ACE 5: Humanities	3
	ACE 9: Global awareness & human diversity	3
	Language Requirement - 202 Level (CDR E)	3
	Elective/Minor/Secondary Major/Science/Pre-Professional	3
	Elective/Minor/Secondary Major/Science/Pre-Professional	3
	Total Hours	15

<b>SEVENTH Semester</b>	CHEM 441: Inorganic Chemistry	3
	CHEM 443: Inorganic Chemistry Laboratory	2
	ACE 6: Social Sciences	3
	ACE 8: Ethics/civics/stewardship	3
	Elective/Minor/Secondary Major/Science/Pre-Professional	3
	Total Hours	14

<b>EIGHTH Semester</b>	ACE 7: Fine Arts	3
	CDR C: Humanities	3
	CDR D: Social Sciences	3
	Elective/Minor/Secondary Major/Science/Pre-Professional	3
	Elective/Minor/Secondary Major/Science/Pre-Professional	1
	Total Hours	13

**DISCLAIMER:** This document represents a sample 4-year plan for degree completion with a major of interest in the College of Arts and Sciences. Actual course selection and sequence may vary and should be discussed individually with an Academic Advisor at the college and department level.