



MICROBIOLOGY

What YOU will learn:

Your major in microbiology at Nebraska will move you to study a fundamental biological science concerned with microscopic organisms such as bacteria, fungi, viruses, and other microbes. If you pick up a handful of garden soil you will be holding thousands, possibly millions of different kinds of microbes. These have a daily effect on human and animal health, our environment, and are directly related to issues such as food safety, infectious diseases, biofuels and bioenergy, environmental biology, and bioterrorism.

Your microbiology major includes 4 different areas of specialization, so you can focus on the particular areas that most interest you and fit your career path. These areas are:

- Applied and environmental microbiology
- Biotechnology and industrial microbiology
- Clinical and veterinary microbiology
- Food microbiology

Career opportunities YOU will have:

Some of the most important scientific discoveries have been made by microbiologists. Microbiologists can be found working in a variety of settings, from the traditional laboratory to fields and streams. A bachelor of science degree in microbiology prepares you for a wide range of important careers including:

- Agriculture
- Biofuels and bioenergy
- Environmental
- Food industry and food safety
- Forensic science
- Government and education
- Industrial research and development
- Pharmaceutical, medicine, veterinary, dental & public health

Why NEBRASKA for Microbiology?

You can engage in a broad and diverse research community that fosters collaborations between laboratories with shared research interest, and bridges diverse disciplines. Current collaborations include UNL Centers in Energy Sciences, Plant Sciences, and Virology. The laboratories are well equipped and located in modern facilities such as the Beadle Center, for Genetics and Biomaterials. Microbiology research is underwritten by the UNL Biotechnology Core Research Facilities.

Connect with the Department and your peers by joining UNL's Microbiology Club! Microbiology Club welcomes you to join like-minded students who visit local corporations to learn about potential career opportunities, host guest speakers, enjoy microbiology movie nights, and even design club t-shirts.



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	COURSE NAME	HOURS
FIRST Semester	LIFE 120: Fundamentals of Biology I	3
	LIFE 120L: Fundamentals of Biology I Lab	1
	MATH 106: Calculus I	5
	Language Requirement - 201 Level (CDR E)	3
	ACE 1: Written texts/research & knowledge skills	3
	Total Hours	15

	COURSE NAME	HOURS
SECOND Semester	LIFE 121: Fundamentals of Biology II	3
	LIFE 121L: Fundamentals of Biology II Lab	1
	CHEM 109: General Chemistry I	4
	Language Requirement - 202 Level (CDR E)	3
	CDR A: Written communication	3
	Total Hours	14

THIRD Semester	CHEM 110: General Chemistry II	4
	BIOS 206: General Genetics	4
	ACE 2: Communication skills	3
	ACE 5: Humanities	3
	Elective/Minor/Secondary Major/Pre-Professional/Science	1
	Total Hours	15

FOURTH Semester	CHEM 251: Organic Chemistry I	3
	CHEM 253: Organic Chemistry I Laboratory	1
	STAT 218: Introduction to Statistics	3
	ACE 6: Social Sciences	3
	College Distribution Requirement (CDR) C: Humanities	3
	Total Hours	13

FIFTH Semester	CHEM 252: Organic Chemistry II	3
	BIOS 312: Microbiology	3
	BIOS 314: Microbiology Lab	1
	Microbiology Elective	3
	CDR D: Social Sciences	3
Elective/Minor/Secondary Major/Science/Pre-Professional	3	
	Total Hours	16

SIXTH Semester	BIOC 431: Structure & Metabolism	3
	BIOS 420: Molecular Genetics	3
	Microbiology Elective	3
	ACE 8: Ethics/civics/stewardship	3
	ACE 9: Global awareness & human diversity	3
	Total Hours	15

SEVENTH Semester	PHYS 141 or 211: Elementary or General Physics I	5
	BIOS 440: Microbial Physiology	3
	BIOS 443: Immunology	3
	Microbiology Elective	3
	Elective/Minor/Secondary Major/Science/Pre-Professional	3
	Total Hours	17

EIGHTH Semester	Microbiology Elective	3
	PHYS 142 or 212: Elementary or General Physics II	5
	ACE 7: Fine Arts	3
	Elective/Minor/Secondary Major/Science/Pre-Professional	3
	Total Hours	14

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.