2024-25 Academic Year

PLANT BIOLOGY

(ECOLOGY AND MANAGEMENT CONCENTRATION)

3+1 Degree Program with UNL

Plant life exists everywhere, from the driest deserts to the wettest tropics. Vegetation covers the earth, from the finest grasses to the heartiest trees. Plants are grown for food, beautification, or other uses. They can be used to keep soil from eroding. With a Plant Biology and Ecology degree, you'll get to study the cellular makeup of plants, discovering uses for them and perhaps even improving their lifespan. The Plant Biology-Ecology Management degree program is a partnership between Wayne State College and the University of Nebraska-Lincoln. You'll get a solid foundation in the biological sciences in your first three years at WSC (90 hours), then cap your education with exposure to experts in agronomy at UNL. This program will prepare you for future studies at the master's or doctoral level in the areas of plant molecular, cellular, and physiological biology, as well as careers in ecology, botany, rangeland management, and field biology.

fast facts

Hours:
55-56 hours for major at WSC
30 hours in general education at WSC
30 hours in major at UNL

At least 120 hours are required for graduation from Wayne State College. You may add a second major, minor, or electives to help meet these requirements.

Degree offered: B.S. in plant biology from UNL (ecology and management option)

Department: Life Sciences

School: Science, Health, and Criminal Justice

Internship: Required for credit toward your degree

Popular minors: Chemistry, Environmental Studies

focus on results

Skills Learned

- Plant science
- Evolutionary processes
- Biological systems and structures
- Zoology
- Molecular genetics
- General chemistry and physics
- Experimental design and data collection
- Modern lab techniques
- Statistical analysis
- Critical thinking and problem-solving
- Technical communication

Possible Careers

- Botanist
- Field biologist
- Environmental scientist
- Ecosystem manager
- Rangeland manager
- Plant ecologist
- Plant pathologist
- Horticulturist
- Agronomist
- Genetic engineer
- Plant biochemist

Types of Employers

- National parks and forests
- Natural resource facilities
- Wildlife preserves
- Government organizations
- Conservation societies
- Plant breeding / seed companies
- Schools, colleges, and universities
- Research facilities
- Food science companies
- Landscaping companies
- Energy or water companies

outside the classroom

Visit www.wsc.edu/clubs to learn more about clubs and organizations on campus.

Activities / Opportunities

- Conduct research projects
- Conferences and presentations
- Peer mentoring and tutoring
- Service-Learning
- Study Abroad

Clubs / Organizations

- Biology Club
- The Wildlife Society

Sample program of study

2024-25 Academic Year

Every effort is made to ensure this information is current, but please be aware that some content may have changed. There is no substitute for developing a careful course registration plan in consultation with your advisor. The class sequence listed is suggested only. The final decision rests with the student and academic advisor.

Freshman - 1st semester

BIO 110 Biology Concepts 4
CHE 106 General Chemistry I 4
CNA 100 Principles of Human Communication (General Studies CAT 2) 3
ENG 102 Composition Skills 3

Freshman - 2nd semester

BIO 210 Experimental Plant Science 4
CHE 107 General Chemistry II 4
ECO 202 Principles of Macroeconomics 3
GEO 120 World Regional Geography 3
PHI 101 Introduction to Philosophy 3

Sophomore - 1st semester

[1]BIO 325 Ecology 4
CHE 314 Organic Chemistry I 4
GEO 430 Geographic Information Systems 3
MAT 140 Calculus I 5

Sophomore - 2nd semester

[2]BIO 200 Zoology 4
BIO 301 Biology Seminar 1
[3]BIO 345 Conservation Biology 3
BIO 370 Introduction to Research 2
MAT 180 Applied Probability and Statistics 3

Summer Session

[4]BIO 397 Biology Internship 1

Junior - 1st semester

BIO 320 Molecular Genetics 4
BIO 406 Great Plains Flora or elective 3
BIO 469 Senior Seminar in Biology 1
CHE 326 Biochemistry I 4
PHY 201/321 General Physics I w/Lab 4

Junior - 2nd semester

ART 110 Drawing I CNA 101 Introduction to Theatre 3
[2]BIO 425 Evolution 3
[4]BIO 470 Research Project 1
EAS 110 Introduction to Meteorology 4
PHI 105 Ethics and Values 3

Summer Session at UNL

[5]AGRO 153 Soil Resources 4

Senior (at UNL)

AGRO 92 Plant Biology Portfolio and Assessment 0
AGRO 245 Introduction to Grassland Ecology and Management 3
AGRO 325 Introductory Plant Physiology 4
AGRO 442 Wildland Plants 3
AGRO 444 Ecosystem Monitoring and Assessment 3
Electives from courses related to ecology and management 10

Students must also choose from one of the following to fulfill Achievement Centered Education (ACE) area 10:
AGRO 403 Scientific Writing and Communication 3
BIOS 457 Ecosystem Ecology 4
NRES 454 Ecological Interactions 3

[1]BIO 325 Ecology will substitute for BIOS 207/BIOS 220 at UNL
[2]BIO 200 Zoology and BIO 434 Advanced Cellular Biology will substitute for LIFE 121/L at UNL. BIO 425 is a direct equivalent to BIOS 472.
[3]BIO 345 Conservation Biology will substitute for NRES 211 at UNL.
[4]Students are required to submit a contract for approval to the Plant Biology Steering Committee at UNL **before** the experience or independent study occurs.
[5]AGRO 153 is a prerequisite and must be taken before going to UNL; offered online. This course can be taken anytime during the 3 years at WSC.

plant biology faculty

Visit www.wsc.edu/life-sciences to learn more about the Department of Life Sciences.

Doug Christensen, Ph.D.
Department Chair
Carhart Science 207G
402-375-7345
dochris1@wsc.edu

Mark Hammer, Ph.D.

Revised on: 6/5/24