

Crop and Weed Sciences

Crop and Weed Sciences Major

Instruction in crop and weed sciences includes field and forage crop production and management, weed science, general and plant genetics, plant breeding, and biotechnology. The study of botany and other plant sciences, entomology, plant pathology, and soil science is basic or related to crop and weed sciences. Students may obtain either a major or minor. The Crop and Weed Sciences major or minor is intended for general use in sales, research, and technical services (crop consultant) of agribusinesses involved in seed, chemical, and other plant production, protection, and management aspects; in natural resources conservation service; by those interested in production agriculture; or as a prerequisite for graduate study. For more details on M.S. and Ph.D. degrees, see the Graduate School Bulletin (<http://bulletin.ndsu.edu/past-bulletin-archive/2017-18/graduate>).

Curriculum Options

Students select one of the following options within Crop and Weed Sciences:

- **Agronomy:** This option is for students most interested in production agriculture. This is the most popular option with students and provides the most flexibility of course selection. Completing the basic crop and weed sciences curriculum fulfills this option.
- **Biotechnology:** This option is intended for students who wish to work in the biotechnology industry or pursue graduate study in the crop biotechnology area. Students interested in biotechnology also may pursue the interdisciplinary Biotechnology major (see Interdisciplinary Programs (<http://bulletin.ndsu.edu/past-bulletin-archive/2017-18/undergraduate/interdisciplinary-studies>) section).
- **Science:** This option is intended for students who are interested in graduate studies and want more basic science courses as a foundation for graduate studies.
- **Weed Science:** This option is intended for students interested in crop consulting, weed science, or integrated pest management. Additional courses in pest management are required to provide exposure to common issues encountered in these careers and practice in diagnosis and resolution.

Special Opportunities

Agronomy Club: The Agronomy Club meets twice each month. Members join in campus and community activities, arrange speakers on agricultural topics, and participate in meetings and contests at the regional and national levels. The club also coordinates tours to local agribusinesses to gain a better perspective of career opportunities. Students with an interest in agriculture are encouraged to attend, regardless of chosen major.

Crop and Weed Sciences Minor

Students may minor in Crop and Weed Sciences by selecting a total of 18 credits of study in crop and weed sciences or closely related fields.

Major Requirements

Major: Crop & Weed Sciences

Degree Type: B.S.

Minimum Degree Credits to Graduate: 128

General Education Requirements for Baccalaureate Degree

- A list of approved general education courses is available here (<http://bulletin.ndsu.edu/past-bulletin-archive/2017-18/academic-policies/undergraduate-policies/general-education/#genedcoursestext>).
- General education courses may be used to satisfy requirements for both general education and the major, minor, and program emphases, where applicable. Students should carefully review the major, minor, and program emphases requirements for minimum grade restrictions, should they apply.

Code	Title	Credits
Communication (C)		12
ENGL 110	College Composition I	
ENGL 120	College Composition II	
COMM 110	Fundamentals of Public Speaking	
Upper Division Writing [†]		
Quantitative Reasoning (R) [†]		3
Science and Technology (S) [†]		10
Humanities and Fine Arts (A) [†]		6
Social and Behavioral Sciences (B) [†]		6
Wellness (W) [†]		2

Cultural Diversity (D) ^{†}****Global Perspectives (G) ^{**†}**

Total Credits	39
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* May be satisfied by completing courses in another General Education category.

† May be satisfied with courses required in the major. Review major requirements to determine if a specific upper division writing course is required.

Major Requirements

Code	Title	Credits
Required Courses for Crop & Weed Sciences		
AGRI 150	Agriculture Orientation (Not required for students transferring in 24 or more credits.)	1
AGRI 189	Skills for Academic Success ¹	1
BIOL 150 & 150L	General Biology I and General Biology I Laboratory	4
Select one of the following:		4
BIOL 151 & 151L	General Biology II and General Biology II Laboratory	
BOT 372	Structure and Diversity of Plants and Fungi	
CHEM 121 & 121L	General Chemistry I and General Chemistry I Laboratory (May satisfy general education category S)	4
CHEM 122 & 122L	General Chemistry II and General Chemistry II Laboratory (May satisfy general education category S)	4
ECON 201	Principles of Microeconomics (May satisfy general education category B and G)	3
ENT 350	General Entomology	3
PLSC 110	World Food Crops (May satisfy general education category S)	3
PLSC 215	Weed Identification	1
PLSC 225	Principles of Crop Production	3
PLSC 312	Expanding the Boundaries of Learning with Service	1
PLSC 315 & 315L	Genetics and Genetics Laboratory (May satisfy general education category S)	4
PLSC 320	Principles of Forage Production	3
PLSC 323	Principles of Weed Science	3
PLSC 444	Applied Plant Breeding and Research Methods	3
PLSC 455	Cropping Systems: An Integrated Approach	3
PLSC 491	Seminar	1
PPTH 324	Introductory Plant Pathology	3
SOIL 210	Introduction to Soil Science	3
STAT 330	Introductory Statistics (May satisfy general education category R)	3
Options: Select one of four options listed below.		19-30
The standard option for this major is Agronomy. Students who wish to declare a specific option must officially declare that option with the Office of Registration and Records.		
Total Credits		77

¹ AGRI189 is only required for first-time, first-year students—A first-time, first-year student is defined as a student who has not yet completed a college course as a college student. Students that are not first-time, first-year students that either transfer into the university or change their major are not required to take AGRI 189.

Agronomy Option - 19-20 Credits

For students interested in production agriculture; this option provides the most flexibility in course selection.

Code	Title	Credits
MICR 202 & 202L	Introductory Microbiology and Introductory Microbiology Lab	3
BOT 380	Plant Physiology	3

CHEM 240	Survey of Organic Chemistry	3-4
or BIOC 260	Elements of Biochemistry	
or BOT 460	Plant Ecology	
MATH 103	College Algebra (or higher)	3
PLSC 300-400	(no more than 2 credits of co-op)	4
SOIL 322	Soil Fertility and Fertilizers	3
Total Credits		19-20

Biotechnology Option - 19-21 Credits

For students who wish to work in the biotechnology industry or pursue graduate study in crop biotechnology.

Code	Title	Credits
BIOC 460	Foundations of Biochemistry and Molecular Biology I	3
BOT 380	Plant Physiology	3
MATH 105	Trigonometry	3-4
or MATH 146	Applied Calculus I	
MICR 350 & 350L	General Microbiology and General Microbiology Lab	5
PLSC 453	Advanced Weed Science	2-3
or PLSC 431	Intermediate Genetics	
PLSC 484	Plant Tissue Culture and Biotechnology	3
Total Credits		19-21

Science Option - 30 Credits

For students interested in advanced study and want more foundation studies.

Code	Title	Credits
MICR 202 & 202L	Introductory Microbiology and Introductory Microbiology Lab	3
BOT 380	Plant Physiology	3
CHEM 341 & 341L	Organic Chemistry I and Organic Chemistry I Laboratory	4
MATH 146	Applied Calculus I	4
PLSC 300-400	(No more than 2 credits of co-op may be used)	4
Science and Math Electives		12
Total Credits		30

Weed Science Option - 27-28 Credits

For students interested in crop consulting, weed science, and plant protection areas.

Code	Title	Credits
AGEC 375	Applied Agricultural Law	3
or AGECE 484	Agricultural Policy	
or BUSN 431	Business Law I-Contracts, Property and Torts	
or SAFE 452	Food Laws and Regulations	
MICR 202 & 202L	Introductory Microbiology and Introductory Microbiology Lab	3
BOT 380	Plant Physiology	3
CHEM 240	Survey of Organic Chemistry	3-4
or BIOC 260	Elements of Biochemistry	
MATH 103	College Algebra (or higher level)	3
PLSC 433	Weed Biology and Ecology	2
PLSC 453	Advanced Weed Science	2
PLSC 300-400		2
PPTH 454	Diseases Of Field and Forage Crops	3

SOIL 322	Soil Fertility and Fertilizers	3
Total Credits		27-28

Degree Requirements and Notes

- The program of study allows no more than 6 credits of cooperative education (co-op) to be counted toward degree requirements.

Minor Requirements

Crop & Weed Science Minor

Minor Requirements

Required Credits: 18

Code	Title	Credits
Required		
PLSC 110	World Food Crops	3
PLSC 225	Principles of Crop Production	3
Elective Courses: Select two of the following:		6-7
PLSC 315 & 315L	Genetics and Genetics Laboratory (both must be taken to count as one selection)	
PLSC 320	Principles of Forage Production	
PLSC 323	Principles of Weed Science	
Elective Courses:		5-6
Other courses approved by the department:		
PLSC 215	Weed Identification	
SOIL 210	Introduction to Soil Science	
ENT 350	General Entomology	
PPTH 324	Introductory Plant Pathology	
PLSC 300-400	Level Course	
Total Credits		18-19

Minor Requirements and Notes

- A minimum of 8 credits must be taken at NDSU.
- Students must earn a minimum 2.00 GPA for the minor requirements.