

# 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/2014-15/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/2014-15/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.

Required Degree Credits to Graduate: 128

### General Education Requirements

#### First Year Experience (F):

AGRI 189	Skills for Academic Success (Students transferring in 24 or more credits do not need to take AGRI 189.)	1
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#### Communication (C):

ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
One Course in Upper Level Writing: Select one of the following:		3
ENGL 320	Business and Professional Writing	
ENGL 321	Writing in the Technical Professions	
ENGL 324	Writing in the Sciences	
COMM 110	Fundamentals of Public Speaking	3

#### Quantitative Reasoning (R):

STAT 330	Introductory Statistics	3
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#### Science & Technology (S):

PLSC 110	World Food Crops	3
CHEM 121	General Chemistry I	3
CHEM 121L	General Chemistry I Laboratory	1
CHEM 122	General Chemistry II	3

#### Humanities & Fine Arts (A): Select from current general education list

#### Social & Behavioral Sciences (B):

ECON 201	Principles of Microeconomics	3
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Select from current general education courses 3

#### Wellness (W): Select from current general education list

#### Cultural Diversity (D): Select from current general education list

#### Global Perspectives (G):

PLSC 110	World Food Crops	
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Total Credits 40

## Major Requirements

General Education Requirements 40

### Required Courses for Crop & Weed Sciences

AGRI 150	Agriculture Orientation (Students transferring in 24 or more credits do not need to take AGRI 150.)	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 122L	General Chemistry II Laboratory	1
ENT 350	General Entomology	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	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
<b>Options: Select one of four options listed below.</b>		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.		
<b>Degree Requirements: Potential of 28 credits to reach 128.</b>		28
Total Credits		128

### Agronomy Option - 19-20 Credits

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

MICR 202 & 202L	Introductory Microbiology and Introductory Microbiology Lab	3
BOT 380	Plant Physiology	3
CHEM 240 or CHEM 260 or BOT 460	Survey of Organic Chemistry Elements of Biochemistry Plant Ecology	3-4
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.

BIOC 460	Foundations of Biochemistry and Molecular Biology I	3
BOT 380	Plant Physiology	3
MATH 105 or MATH 146	Trigonometry Applied Calculus I	3-4
MICR 350 & 350L	General Microbiology and General Microbiology Lab	5
PLSC 453 or PLSC 431	Advanced Weed Science Intermediate Genetics	2-3
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.

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.

AGEC 375 or AGECE 484 or BUSN 431 or SAFE 452	Applied Agricultural Law Agricultural Policy Business Law I-Contracts, Property and Torts Food Laws and Regulations	3
MICR 202 & 202L	Introductory Microbiology and Introductory Microbiology Lab	3
BOT 380	Plant Physiology	3
CHEM 240 or CHEM 260	Survey of Organic Chemistry Elements of Biochemistry	3-4
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**

#### 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 and count as one course)
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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.