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/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/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/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.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 110</td>
<td>College Composition I</td>
<td>12</td>
</tr>
<tr>
<td>ENGL 120</td>
<td>College Composition II</td>
<td></td>
</tr>
<tr>
<td>COMM 110</td>
<td>Fundamentals of Public Speaking</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Upper Division Writing †</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quantitative Reasoning (R) †</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Science and Technology (S) †</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Humanities and Fine Arts (A) †</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Social and Behavioral Sciences (B) †</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Wellness (W) †</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Cultural Diversity (D) †</td>
<td></td>
</tr>
</tbody>
</table>
Global Perspectives (G) †

Total Credits 39

* 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

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AGRI 150</td>
<td>Agriculture Orientation (Not required for students transferring in 24 or more credits.)</td>
<td>1</td>
</tr>
<tr>
<td>AGRI 189</td>
<td>Skills for Academic Success</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 150 &amp; 150L</td>
<td>General Biology I and General Biology I Laboratory</td>
<td>4</td>
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<tr>
<td></td>
<td>Select one of the following:</td>
<td></td>
</tr>
<tr>
<td>BIOL 151 &amp; 151L</td>
<td>General Biology II and General Biology II Laboratory</td>
<td></td>
</tr>
<tr>
<td>BOT 372</td>
<td>Structure and Diversity of Plants and Fungi</td>
<td></td>
</tr>
<tr>
<td>CHEM 121 &amp; 121L</td>
<td>General Chemistry I and General Chemistry I Laboratory (May satisfy general education category S)</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 122 &amp; 122L</td>
<td>General Chemistry II and General Chemistry II Laboratory (May satisfy general education category S)</td>
<td>4</td>
</tr>
<tr>
<td>ECON 201</td>
<td>Principles of Microeconomics (May satisfy general education category B and G)</td>
<td>3</td>
</tr>
<tr>
<td>ENT 350</td>
<td>General Entomology</td>
<td>3</td>
</tr>
<tr>
<td>PLSC 110</td>
<td>World Food Crops (May satisfy general education category S)</td>
<td>3</td>
</tr>
<tr>
<td>PLSC 215</td>
<td>Weed Identification</td>
<td>1</td>
</tr>
<tr>
<td>PLSC 225</td>
<td>Principles of Crop Production</td>
<td>3</td>
</tr>
<tr>
<td>PLSC 312</td>
<td>Expanding the Boundaries of Learning with Service</td>
<td>1</td>
</tr>
<tr>
<td>PLSC 315 &amp; 315L</td>
<td>Genetics and Genetics Laboratory (May satisfy general education category S)</td>
<td>4</td>
</tr>
<tr>
<td>PLSC 320</td>
<td>Principles of Forage Production</td>
<td>3</td>
</tr>
<tr>
<td>PLSC 323</td>
<td>Principles of Weed Science</td>
<td>3</td>
</tr>
<tr>
<td>PLSC 444</td>
<td>Applied Plant Breeding and Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>PLSC 455</td>
<td>Cropping Systems: An Integrated Approach</td>
<td>3</td>
</tr>
<tr>
<td>PLSC 491</td>
<td>Seminar</td>
<td>1</td>
</tr>
<tr>
<td>PPTH 324</td>
<td>Introductory Plant Pathology</td>
<td>3</td>
</tr>
<tr>
<td>SOIL 210</td>
<td>Introduction to Soil Science</td>
<td>3</td>
</tr>
<tr>
<td>STAT 330</td>
<td>Introductory Statistics (May satisfy general education category R)</td>
<td>3</td>
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</tbody>
</table>

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

† 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.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MICR 202 &amp; 202L</td>
<td>Introductory Microbiology and Introductory Microbiology Lab</td>
<td>3</td>
</tr>
<tr>
<td>BOT 380</td>
<td>Plant Physiology</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 240</td>
<td>Survey of Organic Chemistry</td>
<td>3-4</td>
</tr>
</tbody>
</table>
or BIOC 260  
or BOT 460  
MATH 103  
PLSC 300-400  
SOIL 322  

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOC 260</td>
<td>Elements of Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>BOT 460</td>
<td>Plant Ecology</td>
<td>3</td>
</tr>
<tr>
<td>MATH 103</td>
<td>College Algebra (or higher)</td>
<td>3</td>
</tr>
<tr>
<td>PLSC 300-400</td>
<td>(no more than 2 credits of co-op)</td>
<td>4</td>
</tr>
<tr>
<td>SOIL 322</td>
<td>Soil Fertility and Fertilizers</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credits</strong></td>
<td><strong>19-20</strong></td>
</tr>
</tbody>
</table>

**Biotechnology Option - 19-21 Credits**  
For students who wish to work in the biotechnology industry or pursue graduate study in crop biotechnology.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOC 460</td>
<td>Foundations of Biochemistry and Molecular Biology I</td>
<td>3</td>
</tr>
<tr>
<td>BOT 380</td>
<td>Plant Physiology</td>
<td>3</td>
</tr>
<tr>
<td>MATH 105</td>
<td>Trigonometry</td>
<td>3-4</td>
</tr>
<tr>
<td>or MATH 146</td>
<td>Applied Calculus I</td>
<td></td>
</tr>
<tr>
<td>MICR 350</td>
<td>General Microbiology</td>
<td>5</td>
</tr>
<tr>
<td>&amp; 350L     &amp; General Microbiology Lab</td>
<td></td>
<td></td>
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<tr>
<td>PLSC 453</td>
<td>Advanced Weed Science</td>
<td>2-3</td>
</tr>
<tr>
<td>or PLSC 431</td>
<td>Intermediate Genetics</td>
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<tr>
<td>PLSC 484</td>
<td>Plant Tissue Culture and Biotechnology</td>
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<tr>
<td></td>
<td><strong>Total Credits</strong></td>
<td><strong>19-21</strong></td>
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**Science Option - 30 Credits**  
For students interested in advanced study and want more foundation studies.

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

**Weed Science Option - 27-28 Credits**  
For students interested in crop consulting, weed science, and plant protection areas.

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

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

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.