Great Plains Institute of Food Safety

www.ag.ndsu.edu/foodsafety

Great Plains Institute of Food Safety

An interdisciplinary team of faculty with expertise in food safety from various departments within NDSU’s Colleges of: Agriculture, Food Systems, and Natural Resources (http://www.ag.ndsu.edu/academics); Arts, Humanities and Social Sciences (https://www.ndsu.edu/ahss); Human Development and Education (https://www.ndsu.edu/hde); Engineering (https://www.ndsu.edu/coe); and Science and Mathematics (https://www.ndsu.edu/scimath) has formed the Great Plains Institute of Food Safety and developed a unique educational experience for NDSU students. The comprehensive food safety curriculum leads to B.S., M.S., and Ph.D. degrees in Food Safety, an Undergraduate Minor in Food Safety. A graduate Certificate in Food Protection is also offered (see Graduate School (https://www.ndsu.edu/gradschool) web site for complete curriculum requirements). All these programs are unified around the single issue of food safety, an area of concern for many Americans, the current target of tremendous interest, effort, and spending worldwide, and an area in which shortages of expertise are manifest. Students in food safety are heavily recruited for employment in the food safety fields.

The curriculum is based on contemporary educational theory and employs experiential learning techniques to foster development of students’ critical-thinking abilities, collaborative and problem-solving skills, and awareness of employment opportunities. Courses are fully integrated so that students have the opportunity to troubleshoot food-safety issues from "farm-to-fork." The program strives to meet students’ present and future educational needs.

Food Safety Major

A number of undergraduate and graduate programs of study in food safety are offered through the Great Plains Institute for Food Safety. Food safety is an area of concern for many Americans, the current target of tremendous interest, effort, and spending worldwide and an area in which shortages of expertise are manifest. For further information, refer to the Interdisciplinary Programs (http://bulletin.ndsu.edu/past-bulletin-archive/2017-18/undergraduate/interdisciplinary-studies) section of this Bulletin.

Food Safety Minor

Students may minor in Food Safety by completing a total of 16 credits. A minimum of eight credits must be taken at NDSU.

Major Requirements

Major: Food Safety

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/#gendetext).
- 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>
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</thead>
<tbody>
<tr>
<td>ENGL 110</td>
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<td>ENGL 120</td>
<td>College Composition II</td>
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<td></td>
<td>Science and Technology</td>
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<td></td>
<td>Humanities and Fine Arts</td>
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<td></td>
<td>Social and Behavioral Sciences</td>
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<td>Wellness</td>
<td>2</td>
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<tr>
<td></td>
<td>Cultural Diversity</td>
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</table>
Global Perspectives (G)  

* 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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<tbody>
<tr>
<td><strong>Food Safety Required Core</strong></td>
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<tr>
<td>AGRI 150</td>
<td>Agriculture Orientation (Students transferring in 24 or more credits do not need to take AGRI 150.)</td>
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<tr>
<td>AGRI 189</td>
<td>Skills for Academic Success ¹</td>
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<tr>
<td>ANSC 340</td>
<td>Principles of Meat Science</td>
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<tr>
<td>CFS 200</td>
<td>Introduction to Food Systems</td>
<td>2-3</td>
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<td></td>
<td>or CFS 210 Introduction to Food Science and Technology</td>
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<tr>
<td>CFS 460</td>
<td>Food Chemistry</td>
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<tr>
<td></td>
<td>and Food Chemistry Laboratory</td>
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<td>CFS 464</td>
<td>Food Analysis</td>
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<tr>
<td>CFS 370</td>
<td>Food Processing I</td>
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<tr>
<td>CFS 470</td>
<td>Food Processing II</td>
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<tr>
<td></td>
<td>and Food Processing Laboratory</td>
<td></td>
</tr>
<tr>
<td>MICR 350</td>
<td>General Microbiology</td>
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<td></td>
<td>and General Microbiology Lab</td>
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<td>MICR 474</td>
<td>Epidemiology</td>
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<td>SAFE 401</td>
<td>Food Safety Information &amp; Flow of Food</td>
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<tr>
<td>SAFE 402</td>
<td>Foodborne Hazards</td>
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<td>SAFE 403</td>
<td>Food Safety Risk Assessment</td>
<td>1</td>
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<tr>
<td>SAFE 404</td>
<td>Epidemiology of Foodborne Illness</td>
<td>1</td>
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<tr>
<td>SAFE 405</td>
<td>Costs of Food Safety</td>
<td>1</td>
</tr>
<tr>
<td>SAFE 406</td>
<td>Food Safety Crisis Communication</td>
<td>1</td>
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<tr>
<td>SAFE 407</td>
<td>Food Safety Risk Management</td>
<td>1</td>
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<tr>
<td>SAFE 408</td>
<td>Food Safety Regulatory Issues</td>
<td>1</td>
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<tr>
<td>SAFE 409</td>
<td>Food Safety Risk Communication &amp; Education</td>
<td>1</td>
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<td>SAFE 452</td>
<td>Food Laws and Regulations</td>
<td>3</td>
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<td>SAFE 484</td>
<td>Food Safety Practicum</td>
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<td>SAFE/COMM 485</td>
<td>Risk and Crisis Communication</td>
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<td><strong>Supporting Courses</strong></td>
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<tr>
<td>BIOC 260</td>
<td>Elements of Biochemistry</td>
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<td></td>
<td>or BIOC 460 Foundations of Biochemistry and Molecular Biology I</td>
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<td>BIOL 150</td>
<td>General Biology I</td>
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<tr>
<td>CHEM 121</td>
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<tr>
<td>CHEM 122</td>
<td>General Chemistry II</td>
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<td>and General Chemistry II Laboratory (May satisfy general education category S)</td>
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<td>CHEM 341</td>
<td>Organic Chemistry I</td>
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<td>and Organic Chemistry I Laboratory</td>
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<td>ECON 201</td>
<td>Principles of Microeconomics (May satisfy general education category B and G)</td>
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<tr>
<td>ECON 202</td>
<td>Principles of Macroeconomics (May satisfy general education category B and G)</td>
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<tr>
<td>MATH 105</td>
<td>Trigonometry</td>
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<td>MATH 146</td>
<td>Applied Calculus I</td>
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MATH 165  Calculus I
PHYS 211  College Physics I
& 211L  and College Physics I Laboratory (May satisfy general education category S)
STAT 330  Introductory Statistics (May satisfy general education category R)

Total Credits: 63-76

1 AGRI 189 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.

Minor Requirements

Food Safety Minor

Minor Requirements

Required Credits: 16

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>SAFE 401</td>
<td>Food Safety Information &amp; Flow of Food</td>
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<td>SAFE 402</td>
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<tr>
<td>SAFE 403</td>
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<td>SAFE 405</td>
<td>Costs of Food Safety</td>
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<td>SAFE 406</td>
<td>Food Safety Crisis Communication</td>
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<td>Food Safety Risk Management</td>
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<td>Food Safety Regulatory Issues</td>
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<tr>
<td>SAFE 409</td>
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Elective Courses: Select 7 credits from the following:

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<tr>
<td>AGE 339</td>
<td>Quantitative Methods &amp; Decision Making</td>
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<td>AGE 344</td>
<td>Agricultural Price Analysis</td>
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<td>AGE 375</td>
<td>Applied Agricultural Law</td>
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<td>AGE 484</td>
<td>Agricultural Policy</td>
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<td>ANSC 340</td>
<td>Principles of Meat Science</td>
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<tr>
<td>ANSC 344</td>
<td>Fundamentals of Meat Processing</td>
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<tr>
<td>ANSC 370</td>
<td>Fundamentals/Animal Disease</td>
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<td>ANSC 482</td>
<td>Sheep Industry and Production Systems</td>
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<td>ANSC 484</td>
<td>Swine Production/Pork Industry Systems</td>
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<td>ANSC 486</td>
<td>Beef Industry and Production Systems</td>
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<td>ANSC 488</td>
<td>Dairy Industry and Production Systems</td>
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<td>CFS 480</td>
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<td>COMM 486</td>
<td>Disaster Preparedness</td>
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<td>EMGT 261</td>
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<td>EMGT 263</td>
<td>Disaster Response</td>
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<td>HNES 141</td>
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<td>and General Microbiology Lab</td>
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<td>&amp; 460L</td>
<td>and Pathogenic Microbiology Laboratory</td>
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<td>MICR 470</td>
<td>Basic Immunology</td>
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<tr>
<td>MICR 471</td>
<td>Immunology and Serology Laboratory</td>
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<td>MICR 474</td>
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<td>World Food Crops</td>
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<tr>
<td>SAFE/COMM 485</td>
<td>Risk and Crisis Communication</td>
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</tbody>
</table>

**Total Credits**: 16

**Minor Requirements and Notes**:

- A minimum of 8 credits must be taken at NDSU