Precision Agriculture

Department Information

• Department Phone:
  701-231-7261
• Department Email:
  ndsu.aben@ndsu.edu
• Department Web Site:
  www.ndsu.edu/aben/
• Degrees Offered:
  B.S.

Major Requirements

Major: Precision Agriculture

Degree Type: Bachelor of Science (B.S.)
Minimum Degree Credits to Graduate: 120

University Degree Requirements

1. Satisfactory completion of all requirements of the curriculum in which one is enrolled.
2. Earn a minimum total of 120 credits in approved coursework. Some academic programs exceed this minimum.
3. Satisfactory completion of the general education requirements as specified by the university.
4. A minimum institutional GPA of 2.00 based on work taken at NDSU.
5. At least 36 credits presented for graduation must be in courses number 300 or higher.
6. Transfer Students: Must earn a minimum of 60 credits from a baccalaureate-degree granting or professional institution.
   a. Of these 60, at least 36 must be NDSU residence credits as defined in #7.
   b. Within the 36 resident credits, a minimum of 15 must be in courses numbered 300 or higher and 15 credits in the major field of study.
7. At least 36 credits must be NDSU resident credits. Residence credits include credits registered and paid for at NDSU.

For complete information, please refer to the Degree and Graduation Requirements (http://bulletin.ndsu.edu/academic-policies/undergraduate-policies/degree-and-graduation) section of this Bulletin.

University General Education Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ENGL 110</td>
<td>College Composition I</td>
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<tr>
<td>ENGL 120</td>
<td>College Composition II</td>
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<tr>
<td>COMM 110</td>
<td>Fundamentals of Public Speaking</td>
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<tr>
<td></td>
<td>Upper Division Writing †</td>
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<td>†</td>
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<tr>
<td>†</td>
<td>Quantumitative Reasoning (R)</td>
<td>3</td>
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<tr>
<td>†</td>
<td>Science and Technology (S)</td>
<td>10</td>
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<tr>
<td>†</td>
<td>Humanities and Fine Arts (A)</td>
<td>6</td>
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<td>†</td>
<td>Social and Behavioral Sciences (B)</td>
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<td>†</td>
<td>Wellness (W)</td>
<td>2</td>
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<tr>
<td>††</td>
<td>Cultural Diversity (D)</td>
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</tr>
<tr>
<td>††</td>
<td>Global Perspectives (G)</td>
<td>39</td>
</tr>
</tbody>
</table>

* May be satisfied by completing courses in another General Education category.
† 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 major requirements to determine if specific courses can also satisfy these general education categories.
A list of university approved general education courses and administrative policies are available here (http://bulletin.ndsu.edu/academic-policies/undergraduate-policies/general-education/#gencoursestext).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AGE C 242</td>
<td>Introduction to Agricultural Management</td>
<td>3</td>
</tr>
<tr>
<td>ASM 225</td>
<td>Computer Applications in Agricultural Systems Management</td>
<td>3</td>
</tr>
<tr>
<td>ASM 354</td>
<td>Electricity and Electronic Applications</td>
<td>3</td>
</tr>
<tr>
<td>ASM 378</td>
<td>Machinery Principles and Management</td>
<td>3</td>
</tr>
<tr>
<td>ASM 454</td>
<td>Principles and Application of Precision Agriculture</td>
<td>3</td>
</tr>
<tr>
<td>ASM 491</td>
<td>Seminar</td>
<td>1</td>
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<tr>
<td>CHEM 121</td>
<td>General Chemistry I</td>
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<tr>
<td>CHEM 121L</td>
<td>General Chemistry I Laboratory</td>
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<tr>
<td>GEOG 105</td>
<td>Fundamentals of Geographic Information Systems</td>
<td>3</td>
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<tr>
<td>GEOG 470</td>
<td>Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>MATH 103</td>
<td>College Algebra</td>
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<tr>
<td>MATH 105</td>
<td>Trigonometry</td>
<td>3</td>
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<tr>
<td>PAG 115</td>
<td>Introduction to Precision Agriculture</td>
<td>3</td>
</tr>
<tr>
<td>PAG 215</td>
<td>Mapping of Precision Ag Data</td>
<td>3</td>
</tr>
<tr>
<td>PAG 315</td>
<td>Electronic Systems in Precision Agriculture</td>
<td>3</td>
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<tr>
<td>PAG 455</td>
<td>Big Data Management in Precision Agriculture</td>
<td>3</td>
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<td>PAG 475</td>
<td>Precision Ag Systems Capst</td>
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<tr>
<td>PAG 496</td>
<td>Precision Ag Tech Expo</td>
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<td>PAG 496</td>
<td>Internship</td>
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<tr>
<td>PLSC 110</td>
<td>World Food Crops</td>
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<tr>
<td>PLSC 225</td>
<td>Principles of Crop Production</td>
<td>3</td>
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<tr>
<td>PPTH 324</td>
<td>Introductory Plant Pathology</td>
<td>3</td>
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<tr>
<td>SOIL 210</td>
<td>Introduction to Soil Science</td>
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</tr>
<tr>
<td>SOIL 322</td>
<td>Soil Fertility and Fertilizers</td>
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<tr>
<td>STAT 330</td>
<td>Introductory Statistics</td>
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**Precision Ag Major requires an additional 18 credits of elective credits. Choose from those listed below, or consult your advisor for additional options.**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tr>
<td>AGE C 342</td>
<td>Farm and Agribusiness Management II</td>
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<td>AGE C 350</td>
<td>Agrisales</td>
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<tr>
<td>AGE C 264</td>
<td>Natural Resource Management Systems</td>
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<tr>
<td>AGE C 373</td>
<td>Tractors &amp; Power Units</td>
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<tr>
<td>AGE C 374</td>
<td>Power Units Laboratory</td>
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<tr>
<td>AGE C 429</td>
<td>Hydraulic Power Principles and Applications</td>
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<tr>
<td>CSCI 479</td>
<td>Introduction to Data Mining</td>
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<tr>
<td>GEOG 455</td>
<td>Introduction to Geographic Information Systems</td>
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<tr>
<td>GEOG 456</td>
<td>Advanced Geographic Information Systems</td>
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<tr>
<td>GEOG 480</td>
<td>Geographic Information Systems Pattern Analysis and Modeling</td>
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<tr>
<td>ME 311</td>
<td>Introduction To Aviation</td>
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<tr>
<td>ME 312</td>
<td>Introduction to Flight</td>
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<tr>
<td>ME 313</td>
<td>Commercial Instrument Ground School</td>
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<tr>
<td>NRM 420</td>
<td>Sustainable Scenarios in Natural Resources Management</td>
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<tr>
<td>PLSC 215</td>
<td>Weed Identification</td>
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<tr>
<td>PLSC 323</td>
<td>Principles of Weed Science</td>
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<tr>
<td>PPTH 455</td>
<td>Plant Disease Management</td>
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<tr>
<td>SOIL 217</td>
<td>Introduction to Meteorology &amp; Climatology</td>
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<tr>
<td>SOIL 410</td>
<td>Soils and Land Use</td>
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# Minor Requirements

## Precision Agriculture

### Minor Requirements

**Required Credits:** 18

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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</thead>
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<td></td>
<td><strong>Precision Ag Minor Courses - Select 3 courses from the following:</strong></td>
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<tr>
<td>ASM 454</td>
<td>Principles and Application of Precision Agriculture</td>
<td>9</td>
</tr>
<tr>
<td>PAG 215</td>
<td>Mapping of Precision Ag Data</td>
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</tr>
<tr>
<td>PAG 315</td>
<td>Electronic Systems in Pri</td>
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<td>PAG 455</td>
<td>Big Data Management in Precision Agriculture</td>
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<td></td>
<td><strong>Precision Ag Minor Required Course</strong></td>
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<tr>
<td>PAG 496</td>
<td>Internship (or similar department course)</td>
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<td></td>
<td><strong>Precision Ag Minor Elective Courses - Select 3 courses from the following:</strong></td>
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<tr>
<td>AGE 242</td>
<td>Farm and Agribusiness Management II</td>
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</tr>
<tr>
<td>ASM 264</td>
<td>Natural Resource Management Systems</td>
<td></td>
</tr>
<tr>
<td>ASM 354</td>
<td>Electricity and Electronic Applications</td>
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<tr>
<td>GEOG 455</td>
<td>Introduction to Geographic Information Systems</td>
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<tr>
<td>GEOG 456</td>
<td>Advanced Geographic Information Systems</td>
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</tr>
<tr>
<td>GEOG 470</td>
<td>Remote Sensing</td>
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<tr>
<td>ME 313</td>
<td>Commercial Instrument Ground School</td>
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<tr>
<td>PAG 475</td>
<td>Precision Ag Systems Capstone</td>
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<tr>
<td>PLSC 225</td>
<td>Principles of Crop Production</td>
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<tr>
<td>NRM 453</td>
<td>Rangeland Resource/Watershed Management</td>
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<tr>
<td>SOIL 322</td>
<td>Soil Fertility and Fertilizers</td>
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**Total Credits:** 18