

Precision Agriculture

Department Information

- **Department Phone:**
701-231-7261
- **Department Email:**
ndsu.aben@ndsu.edu
- **Department Web Site:**
www.ndsu.edu/aben/ (<http://www.ndsu.edu/aben/>)
- **Credential 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 numbered 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 resident 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. Resident credits include credits registered and paid for at NDSU.

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

University General Education Requirements

| 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 |

* 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://catalog.ndsu.edu/academic-policies/undergraduate-policies/general-education/#genedcoursestext>).

Major Requirements

| Code | Title | Credits |
|--|--|-----------|
| AGEC 242 | Introduction to Agricultural Management | 3 |
| ASM 225 | Computer Applications in Agricultural Systems Management | 3 |
| ASM 354 | Electricity and Electronic Applications | 3 |
| ASM 378 | Machinery Principles and Management | 3 |
| CHEM 121 | General Chemistry I | 3 |
| CHEM 121L | General Chemistry I Laboratory | 1 |
| CSCI 114 | Computer Applications | 3 |
| or TL 116 | Business Software Applications | |
| GEOG 105 | Fundamentals of Geographic Information Systems | 3 |
| GEOG 455 | Introduction to Geographic Information Systems | 4 |
| MATH 103 | College Algebra | 3 |
| MATH 105 | Trigonometry | 3 |
| PAG 115 | Introduction to Precision Agriculture | 2 |
| PAG 115L | Introduction to Precision Agriculture Lab | 1 |
| PAG 215 | Mapping of Precision Ag Data | 3 |
| PAG 315 | Electronic Systems in Precision Ag | 3 |
| PAG 454 | Applications of Precision Agriculture | 3 |
| PAG 455 | Applications of Big Data in Precision Agriculture | 3 |
| PAG 475 | Precision Ag Systems Capstone | 2 |
| PAG 496 | Field Experience/Practicum (Precision Ag Tech Expo) | 1 |
| PAG 496 | Field Experience/Practicum (Internship) | 1 |
| PLSC 110 | World Food Crops | 3 |
| or ANSC 114 | Introduction to Animal Sciences | |
| PLSC 225 | Principles of Crop Production | 3 |
| or ANSC 220 | Livestock Production | |
| PPTH 324 | Introductory Plant Pathology | 3 |
| or ANSC 218 | Anatomy and Physiology of Domestic Animals | |
| SOIL 210 | Introduction to Soil Science | 3 |
| or ANSC 223 | Introduction to Animal Nutrition | |
| SOIL 322 | Soil Fertility and Fertilizers | 3 |
| or ANSC 240 | Meat Animal Evaluation and Marketing | |
| STAT 330 | Introductory Statistics | 3 |
| Precision Ag Major requires an additional 18 credits of elective credits. Choose from those listed below, or consult your advisor for additional options.¹ | | 18 |
| AGEC 244 | Agricultural Marketing | |
| AGEC 246 | Introduction to Agricultural Finance | |
| AGEC 342 | Farm and Agribusiness Management II | |
| AGEC 350 | Agrisales | |
| ASM 264 | Natural Resource Management Systems | |
| ASM 373 | Tractors & Power Units | |
| ASM 374 | Power Units Laboratory | |
| ASM 429 | Hydraulic Power Principles and Applications | |
| BIOL 150 | General Biology I | |
| BIOL 150L | General Biology I Laboratory | |
| CSCI 479 | Introduction to Data Mining | |
| GEOG 456 | Advanced Geographic Information Systems | |
| GEOG 470 | Remote Sensing | |
| GEOG 480 | Geographic Information Systems Pattern Analysis and Modeling | |

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| ME 311 | Introduction To Aviation |
| ME 312 | Introduction to Flight |
| ME 313 | Commercial Instrument Ground School |
| NRM 420 | Sustainable Scenarios in Natural Resources Management |
| PLSC 215 | Weed Identification |
| PLSC 323 | Principles of Weed Science |
| PLSC 335 | Seed Technology & Production |
| PLSC 350 | Sugarbeet Production |
| PLSC 453 | Advanced Weed Science |
| PPTH 455 | Plant Disease Management |
| SOIL 217 | Introduction to Meteorology & Climatology |
| SOIL 410 | Soils and Land Use |
| SOIL 447 | Microclimatology |

Total Credits **87**

¹ In consultation with your advisor, courses not appearing on the list that are intended to be used in this area require a substitution form to be submitted to the Office of Registration and Records by the student's advisor during the term in which the student completes the course.

Minor Requirements

Minor: Precision Agriculture

Required Credits: 18

| Code | Title | Credits |
|--|--|----------|
| Required Courses | | |
| PAG 115 | Introduction to Precision Agriculture | 2 |
| PAG 215 | Mapping of Precision Ag Data | 3 |
| Select 2 courses from the following: | | 6 |
| PAG 315 | Electronic Systems in Precision Ag | |
| PAG 454 | Applications of Precision Agriculture | |
| PAG 455 | Applications of Big Data in Precision Agriculture | |
| Elective Courses - Select 6 credits from the following: | | 6 |
| AGEC 244 | Agricultural Marketing | |
| AGEC 246 | Introduction to Agricultural Finance | |
| AGEC 342 | Farm and Agribusiness Management II | |
| AGEC 350 | Agrisales | |
| ANSC 114 | Introduction to Animal Sciences | |
| ASM 264 | Natural Resource Management Systems | |
| ASM 354 | Electricity and Electronic Applications | |
| ASM 378 | Machinery Principles and Management | |
| ASM 429 | Hydraulic Power Principles and Applications | |
| BIOL 150 | General Biology I | |
| BIOL 150L | General Biology I Laboratory | |
| CSCI 479 | Introduction to Data Mining | |
| GEOG 455 | Introduction to Geographic Information Systems | |
| GEOG 456 | Advanced Geographic Information Systems | |
| GEOG 470 | Remote Sensing | |
| GEOG 480 | Geographic Information Systems Pattern Analysis and Modeling | |
| ME 311 | Introduction To Aviation | |
| ME 312 | Introduction to Flight | |
| ME 313 | Commercial Instrument Ground School | |
| PAG 315 | Electronic Systems in Precision Ag * | |
| PAG 454 | Applications of Precision Agriculture * | |
| PAG 455 | Applications of Big Data in Precision Agriculture * | |

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| PLSC 225 | Principles of Crop Production |
| NRM 453 | Rangeland Resources Watershed Management |
| SOIL 217 | Introduction to Meteorology & Climatology |
| SOIL 322 | Soil Fertility and Fertilizers |

Total Credits

17

* May take as an elective if not taken as one of the two courses from the required section.