Precision Agriculture

Department Information

- **Department Location:**
  100 Agricultural and Biosystems Engineering
- **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.
- **Program Overview:**
  catalog.ndsu.edu/programs-study/undergraduate/precision-agriculture/ (http://catalog.ndsu.edu/programs-study/undergraduate/precision-agriculture/)

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/past-bulletin-archive/2022-23/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/past-bulletin-archive/2022-23/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
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 348	Agricultural Technology Exposition	1
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 (Internship)	1
PHYS 120	Fundamentals of Physics	3
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. May select any courses offered in the College of Ag, including AGEC, along with those listed below. May also 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
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.