

Precision Agriculture Technology & Management

Department Information

- **Department Web Site:**
www.ndsu.edu/aben/ (<http://www.ndsu.edu/aben/>)
- **Credential Offered:**
B.S.
- **Official Program Curriculum:**
catalog.ndsu.edu/undergraduate/program-curriculum/precision-agriculture/ (<http://catalog.ndsu.edu/undergraduate/program-curriculum/precision-agriculture/>)

The Program

The Precision Agricultural Technology & Management (PATM) program combines an understanding of farming, agricultural economics, business and sciences, managerial and technical skills. This understanding of agricultural science, technology, and related practices, including unmanned aerial systems (drones), remote sensing, artificial intelligence, machine learning, sensors, robotic applications, cloud computing, big data management, and site-specific resources management is a crucial component of modern agriculture. Students will learn how to use the applications that are commonly needed to produce and process food, feed, fiber and fuel, as well as how to market, conduct sales and distribute agricultural products and services. Graduates enter the job market ready to meet the needs of their employer and clients that need help managing precision agricultural technology.

The Precision Agricultural Technology & Management (PATM) program in the Department of Agricultural and Biosystems Engineering has two emphasis areas:

- Precision Agriculture (PAG)
- Agricultural Technology (ATM)

Both emphasis areas lead to a Bachelor of Science degree in Precision Agricultural Technology and Management.

internships

The curriculum requires at least one internship, but students are highly encouraged to take advantage of as many internship opportunities as they wish, especially co-operative education experiences (paid internships). These are great opportunities for students to gain hands-on experience working with precision agriculture technologies. In addition, internship experiences allow students to make more informed decisions regarding their major, to make better selection of elective courses, and open doors for employment upon graduation.

Career opportunities

Opportunities for PATM graduates are many and diverse. Graduates may, for example, be employed by companies providing equipment and technical services related to precision agriculture, such as Titan Machinery, RDO Equipment, FarmersEdge, IntelligentAg, and John Deere. The adoption of aerial remote sensing and artificial intelligence is on the rise in both private and public sectors, which creates new employment opportunities for PAG graduates. In addition, one always can start his/her own business as a private consultant on precision agriculture. Graduates in our Agriculture Technology option find successes with companies such as Pioneer, ADM, RDO Equipment, and Titan Machinery as Business Managers, Elevator Majors, and Agronomist.

Scholarships

Several scholarships are available through the department. These scholarships range from \$500 to \$4,500. Students also may be eligible for scholarships from the College of Agriculture, Food Systems, and Natural Resources.

A well equipped teaching facility

The PATM degree program is housed in Ladd Hall and the NDSU Pilot Plant West which includes offices, classrooms and laboratories. Laboratories are furnished with equipment typical of that used in industry and research, such as personal computers with software used to manipulate and to write prescriptions to field equipment, several models of unmanned aerial systems (drones), a variety of sensors/cameras (RGB, multispectral, and hyperspectral) mounted to drones and to benches in the lab, tractors, engines, surveying equipment, etc. Faculty expertise varies across a wide and diverse range of specialties related to agricultural and biological systems.

Common Job Outcomes - PAG

- Drone Operator
- Engineering Technician
- Agricultural Crop Consultant

- Technical Support Specialist
- Sales Manager

Common Job Outcomes - ATM

- Farm Owner/Manager
- Plant Manager
- Agricultural Sales
- Grain Cooperative Manager
- Grain Merchandiser
- Engineering Technician
- Irrigation Manager
- Production Supervisor
- Agricultural Crop Consultant
- Technical Support Specialist
- Sales Manager
- Farm Credit Analyst