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## SECTION HEADING

### AGRI 2204: Introduction to Precision Agriculture

#### Description

Introduction to Precision Agriculture is intended to serve as an introduction to GPS (Global Positioning Systems) and GIS (Geographical Information Systems) with an emphasis on agricultural use. Topics include precision farming, positioning systems, yield monitoring, and variable rate technology.

#### Credits

3

#### Prerequisite

None

#### Corequisite

None

#### Topics to be Covered

1. Global Positioning System
2. Yield Monitoring and Mapping
3. Variable Rate Application
4. Soil Sampling
5. Remote Sensing
6. Sprayer Components
7. Planter Components
8. Auto Steer Components
9. Geographic Information System

#### Learning Outcomes

1. Identify the segments and components of the Global Positioning System
2. Explain how the Global Positioning System operates
3. Describe differential technology
4. Identify the components of a yield monitoring system
5. Create a boundary and grid a field
6. Collect soil samples on a grid
7. Explain Normalized Difference Vegetation Index (NDVI)
8. Compare NDVI maps
9. Identify variable rate sprayer components
10. Identify variable rate planter components
11. Install and calibrate an auto-steer system
12. Operate precision displays

#### Credit Details

Lecture: 3

Lab: 0

OJT: 0

MnTC Goal Area(s): None