Course Information Form (CIF)

Course Code: GIS 110

Course Title: Principles of Geographic Information Systems

Department: Agricultural Technologies
PCS Code: 1.2 - Occupational/Technical Instruction
CIP Code: 01.0201
Repeatability: 0

Effective Date: Summer 2026

Credit Hours

Catalog Notation: 3-0-3
Credit Hour Distribution:

Lecture: 3	Lab: 0	Clinical: 0	**Total: 3**

General Course Information

Catalog Description

Components of basic GIS and how they are assembled: requisition of data, maps, and other information used to build a database; basic pilot projects demonstrated step-by-step through various applications in GIS.

General Course Objectives

Students will acquire skills and concepts of the theory, function, and applications of geographic information systems (GIS).

Minimum Placement Levels

English	Reading	Math
Placement out of ENG 098	Placement out of CCS 098	Placement into MAT 060

Prerequisites

None

Methods of Evaluation

The minimum methods of evaluation include: weekly assignments, 2 quizzes, 4 lab exercise assignments, and midterm and final examinations.

Instructional Materials and Additional Supplies

None.

Course Content

General Learning Outcomes (GLOs)

- Reasoning and Inquiry: Students will demonstrate the ability to solve problems using deductive reasoning and logic, quantitative reasoning, or the scientific method.
- Technology: Students will demonstrate the ability to evaluate, select, and appropriately use current and emerging tools.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Introduction to Geographic Information Systems (GIS)	1. Define course requirements, grade structure, and course outline. 2. Define common terms used in GIS. 3. Relate the theory to practical applications.	1	0	0
Basics of Geographic Information, Map Projections, Coordinate Systems, and Scale	1. Identify the characteristics of a map. 2. Arrange the maps from smallest to largest scale.	3	0	0
Digitizing and Spatial Data Creation	1. Examine data structures and formats that GIS uses to store and use geographic information. 2. Design a data table to collect data about an object.	9	0	0
Database Management Systems	1. Define user-to-user access, search, query, and restrictive geographic information. 2. Explain the importance and value of data analysis to producers in decision-making.	7	0	0
Cartographic Representation and Symbolization	1. Explain maps terminology, different map types, and some of the design protocols. 2. Describe the value of establishing relationships between data layers.	8	0	0
Applications of GIS	1. Articulate presentation and examination of software and functionality. 2. Evaluate the value of the computer in analyzing relationships. 3. Define spatial resolution and thematic resolution. 4. Determine mapping unit limits relating to resolution, and how resolution affects details of data.	17	0	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
45	0	0