

SOUTHEAST COMMUNITY COLLEGE
ADVANCED TECHNOLOGY AND SKILLED TRADES DIVISION
Geographic Information Systems Technician Program
Revision Date: November, 2025

I. CATALOG DESCRIPTION

Course Number: GIST1130
Course Title: Data Acquisition and Management
Prerequisite(s): GIST1110 Min grade C
Catalog Description: A broad overview of the many capabilities of GIS Software will be explored. Students will receive a diverse sampling of industries, scenarios, and workflows that highlight the board appeal and many core functions offered by GIS. Students will explore common geographic data formats and how to source data and information to be incorporated into a GIS project. The student will learn the versatility of using geodatabases. The student will demonstrate how to design and build a geodatabase, migrate existing data to a geodatabase and edit data stored in a geodatabase, use acquired data/information within an GIS analysis, and create an effective layout applying proper cartographic principals.

Credit Hours: 3
Class Hours: 45
Lab Hours: 0
Total Contact Hours: 45

II. COURSE OBJECTIVES: *Course will:*

- A. Introduce students to the functionality of GIS software.
- B. Introduce the fundamental concepts of GIS data creation and management.
- C. Demonstrate methods for reviewing and applying the basic steps involved in creating a well thought out geodatabase.
- D. Show how to utilize available tools to create desired outcomes.
- E. Introduce students to methods for displaying cartographic information.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A. Student Learning Outcomes: *Student will be able to:*
 - 1. Design, build, and manage a geodatabase.
 - 2. Identify, create, and edit data formats.
 - 3. Acquire data/information from trusted sites.
 - 4. Georeference, geocode, and digitize data.
 - 5. Gain a functional knowledge of field mapping techniques.
 - 6. Run basic spatial analysis tools.
 - 7. Create a desired map product.
- B. General Education Learning Outcomes (GELOs)
 - 1. GELO #3: Critical Thinking & Problem Solving
Outcome 1: Collect, identify, interpret and analyze data.

IV. CONTENT/TOPICAL OUTLINE

- A. Introduction to data acquisition and management
- B. Review of coordinate systems and layout conventions
- C. Exploring common data formats
- D. Exploring geodatabases

- E. Acquiring data/information from trusted sites
- F. Creating and editing geospatial data
- G. Georeferencing and digitizing data
- H. Geocoding data
- I. Exploring drone data
- J. Creating workflows
- K. Final project

V. INSTRUCTIONAL MATERIALS

- A. Materials provided by instructor
- B. Other Sources: Internet and computer access

VI. METHODS OF PRESENTATION/INSTRUCTION

- A. Methods of presentation typically include a combination of the following:
 - 1. Learning objectives
 - 2. Video presentations
 - 3. PowerPoint presentations
 - 4. Readings and resources

VII. METHODS OF EVALUATION

- A. Methods of evaluation, although determined by the individual instructor, traditionally includes a combination of the following:
 - 1. Assignments
 - 2. Discussions
 - 3. Projects
 - 4. Quizzes/Exams

VIII. SPECIFIC COURSE REQUIREMENTS

- A. This course will not qualify as a prerequisite if the student receives a final grade below a C (70%).