

SOUTHEAST COMMUNITY COLLEGE
CONSTRUCTION MANUFACTURING AND TECHNOLOGY DIVISION
Geographic Information Systems Technician Program
Revision Date: August 21, 2023
[Syllabus Statements](#)

I. CATALOG DESCRIPTION

Course Number: GIST1110
Course Title: Introduction to Geospatial Technology
Prerequisite(s): None
Catalog Description: Students will learn how to think spatially, become familiar with information technology, produce maps, communicate effectively using spatial information, and conduct data analysis with GIS.
Credit Hours: 3
Class Hours: 45
Lab Hours: 0
Total Contact Hours: 45

II. COURSE OBJECTIVES: *Course will:*

- A. Introduce students to geospatial technologies and global positioning systems (GPS)
- B. Examine the basic functions of geospatial software and hardware.
- C. Utilize GIS software to compile, analyze and present geospatial data.
- D. Introduce students to map projections and coordinate systems used in GIS.
- E. Present terminology used in the GIS industry.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A. Student Learning Outcomes: *Student will be able to:*
 - 1. Describe the fundamental concepts of geospatial technologies and global positioning systems.
 - 2. Demonstrate proficiency in the basic functions of geospatial software.
 - 3. Design and create cartographic products by applying cartographic principles.
 - 4. Identify and understand vector and raster data and demonstrate appropriate use of each of these data structures.
 - 5. Demonstrate basic proficiency in map creation and design principles, including thematic map display, employment of map projections and cartographic design.
 - 6. Apply the fundamentals of GIS to compile, create, edit, analyze and present geospatial data using ArcGIS software.
- 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 (CID may provide more detailed information)

- A. Introduction to GIS/GPS concepts
- B. Introduction to GIS software
- C. Interacting with maps and data
- D. Exploring online resources
- E. Working with coordinate systems and projections
- F. Symbolizing features
- G. Classifying features
- H. Labeling features

- I. Making maps for presentation
- J. Building geodatabases
- K. Creating and editing features
- L. Geocoding
- M. Querying data
- N. Selecting features by location

V. INSTRUCTIONAL MATERIALS

- A. Required Text(s): Esri Press, Law, Michael and Collins, Amy, *Getting to know ArcGIS for Desktop*, (Refer to CID and/or instructor for current edition)
- B. Other Sources: Internet and computer access.

VI. METHODS OF PRESENTATION/INSTRUCTION

- A. Methods of presentation typically include a combination of the following:
 - 1. Module outlines
 - 2. Video presentations
 - 3. 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