

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE  
MASTER SYLLABUS

**DATA SOURCES & QUALITY**  
**GIS 1030**

**Class Hours: 3.0**

**Credit Hours: 3.0**

**Laboratory Hours: 0.0**

**Date Revised: Fall 00**

NOTE: This course is not designed for transfer credit.

**Catalog Course Description:**

Provides a rigorous opportunity to become knowledgeable about sources and quality of a variety of commercial and public data available via the Internet. Much GIS data already exists, but is difficult to find, often has quality problems and may only be available in certain file formats. The GIS professional must be able to evaluate data problems and be able to efficiently acquire the data and convert it to his/her use. Students examine a variety of GIS data, evaluate the meta-data and determine the quality as related to the expected end use.

**Entry Level Standards:**

Students should have knowledge and experience working in the Windows operating system environment, including the use of the Microsoft Office software components. Students should also have the ability to use a standard keyboard and maintain a rate of 10 words per minute. Students should also have mathematics, writing, and verbal skills at the college level.

**Prerequisite:**

GIS 1010

**Textbook(s) and Other Course Materials:**

TBA

**I. Week/Unit/Topic Basis:**

TBA

**II. Course Objectives\*:**

- A. Understand the importance of data quality in data collection and evaluation. I, II, IV
- B. Understand the processes that can be used to evaluate sources of data. I, II, IV
- C. Understand how to balance the requirements of data quality and cost. I, II, IV

\*Roman numerals after course objectives reference goals of the GIS program.

**III. Instructional Processes\*:**

Students will:

- 1. Use spatial elements, measurements, locations and references to develop graphic and numerical awareness of the real world. Understand how information in the form of maps

and numbers connect to the physical world. *Numerical Literacy Outcome, Transitional Strategy*

2. Be familiar with the basic procedures and the overall quality of GIS databases. *Numerical Literacy Outcome, Problem Solving and Decision Making Outcome*
3. Participate in open discussions regarding the strengths and weaknesses of GIS procedures and what improvements might be made in future releases. *Active Learning Strategies, Communication Outcome, Transitional Strategy*
4. Use the Internet and electronic mail to communicate effectively between the instructor, other students, and for information gathering. *Technological Literacy Outcome, Information Literacy Outcome*
5. Internalize the work ethic by demonstrating regular attendance, punctuality, dependability, cooperation with teachers and peers, and professionalism. *Personal Development Outcome*

\*Strategies and outcomes listed after instructional processes reference Pellissippi State's goals for strengthening general education knowledge and skills, connecting coursework to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.

#### **IV. Expectations for Student Performance\*:**

Upon successful completion of this course, the student should be able to:

1. Demonstrate understanding of the various sources of GIS data and efficient acquisition of such data. A, B, C
2. Demonstrate understanding and use of Meta Data to assess quality of the data for GIS project use. A, B, C
3. Demonstrate understanding of the data standards and their practical use. A, B, C
4. Demonstrate understanding of data formats and methods of efficiently converting from one format to another. A, B, C
5. Demonstrate measurement of data accuracy and the correct reporting of that accuracy. A, B, C
6. Demonstrate understanding of the difference between data accuracy and precision. A, B, C
7. Demonstrate understanding of the use of surrogate data and problems associated with such use. A, B, C

\*Letters after performance expectations reference the course objectives listed above.

#### **V. Evaluation:**

##### A. Testing Procedures: 65% of grade

Four tests will be administered (three tests plus the final) counting for approximately 65% of the final grade.

##### B. Laboratory Expectations: 35% of grade

Students will be assigned group and/or individual projects. The ability to work with others, the ability to make efficient use of equipment, and the level at which students perform will

contribute to the grade.

C. Field Work:

N/A

D. Other Evaluation Methods:

N/A

**VI. Policies:**

A. Attendance Policy:

Pellissippi State Technical Community College expects students to attend all scheduled instructional activities. As a minimum, students in all courses must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course.

B. Academic Dishonesty:

Plagiarism, cheating and other forms of academic dishonesty are prohibited. A student guilty of academic misconduct, either directly or indirectly through participation or assistance, is immediately responsible to the instructor of the class. In addition to other possible disciplinary sanctions that may be imposed through the regular Pellissippi State procedures as a result of academic misconduct, the instructor has the authority to assign an F for the exercise or examination or to assign an F in the course.

C. Use of Equipment:

Any act of misuse, vandalism, malicious or unwarranted damage or destruction, defacing, disfiguring, or unauthorized use of property/equipment belonging to Pellissippi State is subject to disciplinary sanction.