SAN JUAN COLLEGE
Success Matters

GIST-120-GPS & SURVEYING METHODS 4 CREDITS

SYLLABUS

CATALOG DESCRIPTION

This course provides an overview of global positioning systems. Topics include the theory, implementation, and operations of global positioning systems. Learn the fundamentals of acquiring GIS data using GPS technology, and understand surveying methods important for use in a GIS.

Prerequisites: None

Semester Offered: Fall

Common Student Learning Outcomes

Upon successful completion of San Juan College programs and degrees, the student will demonstrate competency in…

BROAD AND SPECIALIZED LEARNING
Students will actively and independently acquire, apply, and adapt skills and knowledge with an awareness of global contexts.

CRITICAL THINKING
Students will think analytically and creatively to explore ideas, make connections, draw conclusions and solve problems.

CULTURAL AND CIVIC ENGAGEMENT
Students will act purposefully, reflectively, and ethically in diverse and complex environments.

EFFECTIVE COMMUNICATION
Students will exchange ideas and information with clarity in multiple contexts.

INFORMATION LITERACY
Students will be able to recognize when information is needed and have the ability to locate, evaluate, and use it effectively.

INTEGRATING TECHNOLOGIES
Students will demonstrate fluency in the application and use of technologies in multiple contexts.

Student work from this class may be randomly selected and used anonymously for assessment of course, program, and/or institutional learning outcomes. For more information, please refer to the Dean of the appropriate School.

Course Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. Acquire a basic understanding of the principles, functions, and origins of GPS.
2. Acquire a general knowledge of the most current GPS receivers and post processing software.
3. Acquire a general knowledge of data model designs.

4. Master field techniques used for GIS data capture utilizing GPS receivers.
5. Acquire the skills necessary to post-process GPS data and prepare it for a variety of applications.
6. Acquire a general knowledge of planar surveying methods, techniques, and data accuracy.

Specific Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. Demonstrate the ability to perform GPS mission planning. (B,C,CC,E,I)
2. Demonstrate the ability to build GPS data dictionaries from a data model design. (B,C,I)
3. Demonstrate the ability to collect data using current GPS receivers. (B,C,I)
4. Demonstrate the ability to post-process GPS data, evaluate its content and assess its precision. (B,C,I)
5. Demonstrate the ability to prepare processed GPS data for a variety of applications (i.e. GIS and CAD) including writing metadata. (B,C,I)
6. Demonstrate the ability to assess the accuracy and usefulness of survey data for use in a GIS. (B,C,I)