

SOUTHEAST COMMUNITY COLLEGE
ADVANCED TECHNOLOGIES AND SKILLED TRADESDIVISION
Land Surveying/GIS/Civil Engineering Technology Program
Revision Date: August 2025

I. CATALOG DESCRIPTION

Course Number: LSCE2620
Course Title: Boundary Control & Legal Principles
Catalog Description: Study of the advanced methods and equipment for making surveying measurements. Using a property description, students conduct a record history search. Field search for locating survey points and field-to-finish subdivision project will be completed along with processing the data and drawing the subdivision using AutoCAD Civil 3D. This course will also include legal descriptions of plots of land and methods for describing boundaries and locating property. Using a property description, students conduct a record history search at the county courthouse. Field search for locating survey points is also completed.
Credit Hours: 3.0
Class Hours: 15
Lab Hours: 90
Total Contact Hours: 105

II. COURSE OBJECTIVES: *Course will:*

- A. Provide knowledge and application of basic surveying principles and practices to large scale areas.
- B. Discuss knowledge of extended treatment to subdivision of sections.
- C. Determine the measurement reported in the survey record and their importance of the overall survey.
- D. Provide a simple and certain form of land identification and legal description.
- E. Outline the field procedures used historically as well as current methods for conducting an original survey.
- F. Outline the procedure for monumenting and official survey.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A. Student Learning Outcomes: *Student will be able to:*
 - 1. Select from a list the definition of public lands
 - 2. Describe the basic "Rules of Survey"
 - 3. State the six general rules applied to boundaries and subdivision of public lands
 - 4. Describe what determines the direction of each line of the public land surveys
 - 5. Know the difference between "geographic position" and "geodetic position"
 - 6. Describe the general scheme on how the law provides the rectangular systems of public land surveys
 - 7. Discuss the five legal procedures on how public lands are surveyed under the method called the system of rectangular surveys
 - 8. Determine which boundaries of a township are the governing lines of the subdivisional surveys
 - 9. Discuss the importance of a survey record
 - 10. Discuss the legal significance of the monument
 - 11. Determine who has the complete jurisdiction over the survey and resurvey of the public lands of the United States

12. List the five general rules followed by the BLM which are controlling upon the location of all public lands
13. Prepare boundary/survey maps
14. Prepare final plats and land division plats
15. Apply learned surveying and drafting skills to “real life” field survey project including:
 - a. Operation of Sokkia 530R Total Station/Data Collector
 - b. Operation of Sokkia GPS equipment
 - c. Operation of AutoCAD Civil 3D 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

- A. Legal Descriptions (BLM Course)
- B. BLM Chapter 1- The General Plan
- C. BLM Chapter 2- Methods of Survey
- D. BLM Chapter 3- The System of Rectangular Surveys
- E. BLM Chapter 4- Monumentation
- F. Restoration of Lost or Obliterated Corners
- G. Field-to-Finish Survey Project
 1. Survey
 2. Reconnaissance
 3. Traverse/Bench Loop
 4. Field Notes
 5. Field Performance
 6. Survey Drawing

V. INSTRUCTIONAL MATERIALS

- A. Required Text(s):
 1. Charles D. Ghilani, *Elementary Surveying: An Introduction to Geomatics*
 2. U.S. Department of the Interior, Bureau of Land Management, *Manual of Surveying Instructions*
 3. George M. Cole, *PPI Surveyor Reference Manual* (Refer to CID and/or instructor for current edition)
- B. Other Resources: Handouts supplied by instructor when required.
- C. Supplies: Calculator/Drafting tools when required.

VI. METHODS OF PRESENTATION/INSTRUCTION

- A. Methods of presentation typically include a combination of the following:
 1. Lecture
 2. Classroom discussion
 3. Videos
 4. Instructional handouts

VII. METHODS OF EVALUATION

- A. Methods of evaluation, although determined by the individual instructor, traditionally includes a combination of the following:
 1. Assignments Sheets Lab
 2. Tests

3. Participation

VIII. SPECIFIC COURSE REQUIREMENTS

- A.** A minimum grade of “C” or higher is required in all courses designated or starting with LSCE to progress through or graduate from the program.