University of Arkansas - Fort Smith
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General Syllabus

UAS 2203 - Land Surveying and Information Fundamentals

Credit Hours: 3 Lecture Hours: 2 Lab Hours: 2

Prerequisite(s): UAS 1103 Introduction to Geographic Information Systems
Prerequisite(s) or Corequisite(s): UAS 1203 GPS GNSS Fundamentals

Effective Catalog: 2021-2022

I. Course Information

A. Catalog Description

An introduction to land information systems as a management tool for land records. A detailed examination of the principles of land subdivision (PLSS), legal descriptions, transfer of property ownership, coordinate systems, projections and datums, and cadastral mapping using GIS.

B. Additional Information

This course provides an overview of our public land system. Both historical and present-day applications will be discussed. This course ties the public land system (PLSS) to current GIS applications. The importance of accuracy of GPS data tied to GIS will be discussed.

II. Student Learning Outcomes

A. Subject Matter

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

1. Explain and demonstrate the use of various coordinate systems and datum.
2. Read a land description parcel/plot.
3. Create various maps using GIS and GPS techniques.
4. Interpret and use the Public Land Survey System (PLSS).
5. Discuss and recall knowledge of the history of land surveying.

B. University Learning Outcomes

This course enhances student abilities in the following areas:

Communication Skills (written and oral)

Students will communicate proficiently. The student will demonstrate the ability to present land map information using GIS and GPS techniques.

Analytical Skills
Critical Thinking - Students will identify problems/issues and develop solutions/analysis in land surveying applications and cadastre to trouble-shoot and develop solutions.

III. Major Course Topics

A. Land Surveying Theory and Concepts
B. History of rectangular land systems
C. Cadastre fundamentals
D. Principles of land subdivision
E. Reference systems
F. Geodetic Networks
G. Coordinate Systems