Minnesota State University Moorhead

GEOS 403: Introduction to Remote Sensing

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 0

Lab Hours/Week: 0

OJT Hours/Week: *.*

Prerequisites:
This course requires the following prerequisite
GEOS 205 - Thinking Spatially

Corequisites: None

MnTC Goals: None

This course provides an introduction to the use of remotely sensed data in environmental research. Remote sensing is the science of acquiring data using the measurement of electromagnetic radiation by techniques that do not require actual contact with the object or area being observed. Most environmental applications of remote sensing use instruments carried on satellites. The different sensors used to collect this information, and the interpretation techniques vary quite widely, and are being developed at an astounding rate. In this course, we will focus on the interpretation and applications of data from space-borne imaging systems (eg: Landsat MSS, Landsat TM, Landsat ETM+, Quickbird, IKONOS, MODIS, ASTER, AVHRR).

B. COURSE EFFECTIVE DATES: 02/01/2018 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

D. LEARNING OUTCOMES (General)

1. Apply critical thinking skills to solve real-world problems with appropriate remote sensing data and processing techniques.
2. Clearly and concisely communicate findings from the analysis of remotely sensed data through reports and graphical products.
3. Critically assess the strengths and weaknesses of remote sensing platforms in a variety of different applications.
4. Extract information from remotely sensed data using both manual and automated techniques.
5. Process remotely sensed data to make it useful in geographic information systems, including image enhancement, contrast stretching, histogram stretching, and PCA.
6. Understand the basic concepts, data, analytical methods, and software of satellite remote sensing as applied to environmental systems.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted