

Dr. Paul Zenope Melcon
Spring Semester 2008

Office: 525 Butte
Hours: MW 8:00-9:00, TuTh 8:30-9:30

GEOG 418 Remote Sensing

Course Description

An introduction to the theory, techniques, data acquisition, processing, and presentation of digital imagery. The emphasis is applications allowing determination of earth surface characteristics using remotely sensed imagery. .

Course Prerequisites

GEOG 219 and GEOG 315 or faculty permission.

Course Materials

Required:Posted Readings on <http://wizard.csuchico.edu:8092/> GEOG_418/Materials/ERDASFieldGuide.pdf

Course Assignment

Assignments	5 @	15 points	75 points
Midterm Exam	2 @	30 points	60 points
Final Exam	1 @	45 points	45 points
Total			180 points

Grade Assignment

A	90%-100%
B	80%-89%
C	70%-79%
D	65%-69%
F	<65%

Assignments

Assignments will emphasize a specific remote sensing application.

Midterm and Final Exams

Two midterm examinations and a final examination will be given. The final exam will be comprehensive. The final and midterm exam formats may include multiple choice, short answer, matching, true/false, or essay. The final exam will be given on **Monday May 19 6:00--7: 50**. Early exams will not be given.

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Class Schedule

1. Georeferencing (two weeks)
 - a. Mapping systems and projections
 - b. Map to map rectification
 - c. Image to coordinate rectification
 - d. Map to image rectification
2. Web pages (three weeks)
 - a. Basic HTML
 - b. Map images in HTML
 - c. Google images in HTML
 - d. Google Earth and Earth Pro images in HTML
 - e. Gamma theta Epsilon web page
3. GPS (three weeks)
 - a. Standard and WAS GPS
 - b. GPS database (data dictionary)
 - c. Differential GPS
4. Digital image processing (five weeks)
 - a. Images
 - i. Image sources and types
 - ii. Image display
 - b. Image interpretations
 - i. Visual
 - ii. Digital
 - c. Image classification
 - i. Spectral signatures collection
 - ii. Classification
 1. Minimum distance classification
 2. Parallelepiped, classification
 3. Maximum likelihood classification
 - iii. Statistical evaluation
5. Centerville/ Butte Creek Canyon and Basin Images—class contribution to the Centerville Museum (two weeks)
 - a. Satellite images
 - b. Parcel data
 - c. Historical images
 - d. Human infrastructure