

GEOG 5225 – Geographic Applications of Remote Sensing

Instructor

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Course Website

The course schedule, announcements, lectures, lab assignments, readings, and other course information will be posted on Carmen (<https://carmen.osu.edu>).

Course Description

This course provides an introduction to the fundamentals of remote sensing and its geographic applications. Lectures will focus on basic concepts and techniques in remote sensing data acquisition and analysis. Examples from a variety of topical areas will be used to illustrate how the information derived from remotely sensed data can be used in geographic studies. Computer laboratory exercises are designed to help students to gain hands-on experiences on the digital processing of remotely sensed data. Students are expected to complete a project that applies remote sensing techniques to solve a real-world problem.

Required Textbook

Jensen, John R., 2015, *Introductory Digital Image Processing: A Remote Sensing Perspective*, Prentice Hall: Upper Saddle River, NJ, 4th ed., ISBN 9780134058160.

Optional Reference

Jensen, John R., 2007, *Remote Sensing of the Environment: An Earth Resource Perspective*, Prentice Hall: Upper Saddle River, NJ, 2nd ed., ISBN 9780131889507.

Course Evaluation

Final course grades will be based on the following weighting of assessment components:

- **Quizzes (15%):** There will be multiple quizzes on Carmen throughout the semester. Students must take the quizzes to receive credits. No make-up quizzes will be given unless legitimate documents for medical or personal emergency are presented.
- **Laboratory exercises (40%):** The laboratory exercises will require the use of ERDAS Imagine and Google Earth Engine. Lab assignments should be turned in on time. Late submissions will be penalized by 10% per day late.
- **Examination (15%):** There will be an examination on Carmen in the second half of the semester. Students must take the exam to receive credits. No make-up exam will be given unless legitimate documents for medical or personal emergency are presented.
- **Video presentation (10%):** Students are required to submit a recorded video presentation to summarize remote sensing applications based on peer-reviewed journal papers.
- **Final project (20%):** Students are required to complete a final project that applies remote sensing techniques to solve a real-world problem of their own interest. More detailed information on the final project will be posted on Carmen.

Final course grades will be assigned based on the following grading scale:

A: 93–100 | **A-:** 90–92 | **B+:** 87–89 | **B:** 83–86 | **B-:** 80–82 | **C+:** 77–79

C: 73–76 | **C-:** 70–72 | **D+:** 67–69 | **D:** 60–66 | **F:** below 60

Academic Misconduct

Please help maintain an academic environment of mutual respect and fair treatment. It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term academic misconduct includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). Academic misconduct will not be tolerated and will be dealt with procedurally in accordance with university policy, which is available at <http://oaa.osu.edu/coam.html>. For additional information, see the Code of Student Conduct at <http://studentlife.osu.edu/csc/>.

Students with Disabilities

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. You are also welcome to register with Student Life Disability Services to establish reasonable accommodations. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. **SLDS contact information:** slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Health and Safety Requirements

All students, faculty and staff are required to comply with and stay up to date on all university safety and health guidance (<https://safeandhealthy.osu.edu>), which includes wearing a face mask in any indoor space and maintaining a safe physical distance at all times. Non-compliance will be warned first and disciplinary actions will be taken for repeated offenses.