

GEOG 2650: Intro to Geospatial Technologies (12234)

Spring Semester 2017, 3 credits

Tuesday 6:30-9:00 p.m. 2119 Wood Hall

Instructor: Stephen R. Cameron

Email: Stephen.cameron@wmich.edu

Office hours: M/W 12:30-2:00 p.m. or by appointment

Office: 3236 Wood Hall

phone: 387-0604

TA: Kawser Office hours: 6:30-7:30 room 2109 Wood Hall

Course Overview and Objectives

Geography 2650 is an introduction to the geo-spatial sciences as they are practiced today. We will look at and learn to use a variety of map types, while uncovering the fundamental principles that link spatial data to the real world: scale, projections, grids and coordinate systems, geodesy, and software applications for geospatial analysis. Air photos and other remotely sensed imagery and their use will also be introduced.

This course serves students interested in improving their geospatial skills for their chosen discipline or field. The course material covers technical issues in the discipline of Geography and may serve as an introduction to courses in GIS, GPS, and remote sensing offered in the Geography Department.

This course satisfies General Education Area VII: Natural Science and Technology: Applications and Implications.

Catalog description

(Science credit) Introductions to the fundamental principles that link maps and nature: scale, surface transformations of earth relief and round planet; selection, simplification, and symbolization of data; reference grids and orientation. Methods of map reading, analysis, and interpretation are practiced on maps of different kinds and scales. Air photos and other remotely sensed images and their application are also introduced.

Required Materials

Shellito, Bradley A. (2015) *Introduction to Geospatial Technologies*, W. H. Freeman and Co., Second Edition, 2015, ISBN: 1464188726

Methods of Instruction

The course will use a lecture format, supplemented with powerpoint presentations, reading assignments, and in-class and out of class and homework assignments. Lecture notes will be made available via the Elearning website.

Evaluation Criteria

Students are expected to attend class regularly, turn in assignments by the due date, and read all assigned materials prior to class.

The following methods of evaluation will be used:

Classroom Attendance/Participation	100 pts	10%
Lab Exercises	300 pts	30%
Midterm Exams (x2)	300 pts	30%
Final Exam (comprehensive)	300 pts	30%
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Total:	1000 pts	100%

Classroom participation

Students are expected to attend class on a regular basis. If you must miss class please let me know in advance.

Lab Exercises

Weekly lab assignments will be given throughout the semester. Students must submit the assignments by the due date. Late assignments will result in a reduction of points awarded.

Exams

Exams will feature a variety of multiple choice, T/F and short answer questions drawn from lectures, readings, videos and lab exercises. The final exam will be comprehensive.

All grades will be assigned using the following scale:

A	90 - 100	C	70 - 74
BA	85 - 89	DC	65 - 70
B	80 - 84	D	60 - 64
CB	75 - 79	E	<60

Miscellaneous

Cell phones should be turned off during class as a courtesy to the instructor and other students. Texting in class is right out.

Laptops are permitted in class but should be directed to academic pursuits so as to not disrupt class or disturb others.

A quick note on cheating ~don't do it!

You are responsible for making yourself aware of and understanding the policies and procedures in the Undergraduate and Graduate Catalogs that pertain to Academic Honesty. These policies include cheating, fabrication, falsification and forgery, multiple submission, plagiarism, complicity and computer misuse. [The policies can be found at <http://catalog.wmich.edu> under Academic Policies, Student Rights and Responsibilities.] If there is reason to believe you have been involved in academic dishonesty, you will be referred to the Office of Student Conduct. You will be given the opportunity to review the charge(s). If you believe you are not responsible, you will have the opportunity for a hearing. You should consult with your instructor if you are uncertain about an issue of academic honesty prior to the submission of an assignment or test. **Please refer to general academic rules for the University, available in the Code of Student Conduct <http://www.osc.wmich.edu/studentcode/>.**

Disabilities:

Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc) who needs to arrange reasonable accommodations must contact Ms. Beth Denhartigh at 387-2116 or email beth.denhartigh@wmich.edu at the beginning of the semester. A disability determination must be made by that office before any accommodations are provided by the instructor.

Library Assistance:

For assistance in locating articles, books and additional reference materials relevant to this class contact Michael McDonnell, Library Liaison to the Geography Department. Phone: (38)7-5208, Michael.McDonnell@wmich.edu, Room 2030, Waldo Library.

Note: I welcome student input and suggestions and am happy to answer any course-related questions you may have. Please take advantage of my posted office hours or feel free to set up an appointment for another time. Email messages are welcome and I will do my best to respond within a reasonable amount of time, generally within 24 hours.

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Date	Event(s)	Topic(s)	Readings
1/10	Ex 1	Class Overview and Introductions	
1/17	Ex 2	It's a Geospatial World!	Chapter 1
1/24	Ex 3	Where in the Geospatial World Are You?	Chapter 2
1/31	Ex 4	Getting Your Data to Match the Map	Chapter 3
2/7		Finding Your Position With GPS	Chapter 4
2/14	Ex 5	Working With Digital Geospatial Data and GIS	Chapter 5
2/21	Ex 6	Using GIS for Spatial Analysis	Chapter 6
2/28	Exam 1		
3/7		Spring Break!!!	
3/14	Ex 7	Using GIS to Make a Map	Chapter 7
3/21	Ex 8	Getting There Quicker With Geospatial Technology	Chapter 8
3/28	Ex 9	Remotely Sensed Images From Above	Chapter 9
4/4	Ex 10	How Remote Sensing Works	Chapter 10
4/11	Ex 11	Images From Space	Chapter 11
4/18	Exam 2		
4/25		Final Exam	7:15 – 9:15 p.m.