

FOR 250 – Geographic Information Systems Practicum

Spring 2009

Instructor: Dr. David Affleck Office: Clapp Building (SC) 405
Email: david.affleck@umontana.edu Phone: 243-4186
Office hours: Thursday 3:00 – 4:30 pm and Friday 11:00 – 12:00 pm

TA: Marco Contreras Office: Forestry 207
Email: marco.contrerasalgado@umontana.edu
Office hours: TBA

Lectures: Tuesday 4:10 – 5:00 pm in Forestry 301

Labs: Section 2 Wednesday 1 pm – 3 pm in Journalism 106
Section 1 Wednesday 3:30 pm – 5:30 pm in Journalism 106

Course catalogue description:

A practical introduction to the use of geographic information systems for storing, retrieving, analyzing, and displaying spatial data. There are no prerequisites.

Course objectives:

By the end of this course you will:

1. Understand the core concepts and functions of geographic information systems.
2. Be able to discriminate among different characterizations of the Earth and recognize projections that are suitable for specific applications.
3. Appreciate the strengths and limitations of different classes of spatial data.
4. Be familiar with techniques of spatial analysis made available by geographic information systems.
5. Have acquired technical computing skills relating to the retrieval, analysis, and display of geo-referenced data.

Optional textbooks:

Introduction to Geographic Information Systems, 4th ed. by Chang. McGraw-Hill.

Mastering ArcGIS, 3rd ed. by Price. McGraw-Hill.

Grading Policy:

There are 12 lab exercises collectively worth 70% of the final grade, with a lab exam making up the remaining 30%. Letter grades will be assigned based on the following classes:

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
> 93%	93-90%	90-87%	87-83%	83-80%	80-77%	77-73%	73-70%	70-67%	67-63%	63-60%	< 60%

The lab exam will take place during your scheduled lab meeting time on Wednesday, May 6 in Forestry 106. This will be an open-book/open-notes exam.

Labs:

Problem sets will be assigned each week in the lab, and will be due at the beginning of the subsequent lab (i.e. in one week's time) unless otherwise noted. Exercises will be based on the material covered in lectures and will involve computing and analysis. Group work is encouraged but every student must submit his or her own work. Submissions must be neat, legible, and complete; late submissions will be penalized 10% per day.

Notes:

All course activities are governed by the Student Conduct Code, which embodies the ideals of academic honesty, integrity, human rights, and mutual respect. A copy of the Student Conduct Code can be obtained from www.umt.edu/SA/vpsa/index.cfm/page/2585.

Any student with disabilities necessitating dispensation or assistance will please inform the instructor immediately following the first class.

Tentative course schedule:

Week	Date	Lecture & Lab Topics
1	Jan 26	Course introduction and overview.
2	Feb 2	Classifying data spatial and non-spatial.
3	Feb 9	The Earth is round (or nearly so).
4	Feb 16	Maps are flat.
5	Feb 23	Cartographic technique.
6	Mar 2	Spatial data collection and mapping.
7	Mar 9	Tables and attribute data analysis.
8	Mar 16	Spatial analysis 1: feature selection by spatial query.
9	Mar 23	Spatial analysis 2: vector overlay operations.
10	Mar 30	<i>Spring Break – no meetings</i>
11	Apr 6	Spatial analysis 3: merging spatial data via spatial joins.
12	Apr 13	Editing and creating spatial data.
13	Apr 20	Spatial analysis 4: raster operations.
14	Apr 27	Open-source GIS.
15	May 4	Course review and lab exam.