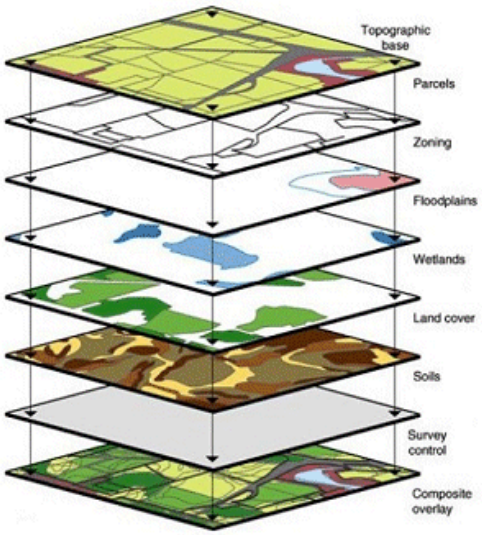
GEOG 3600
Introduction to Geographic Information Systems



Contact information: The Canvas' email system will reach me and is the preferred method of contact outside of office hours. **I will reply to your emails within 48 hours except weekends and holidays.**

Instructor: **Dr. Weihong Wang**
Email: Please use Canvas email to reach me
Office Location: PS 213
Office Phone: 801-863-7607

Course description and goals:
This course is an introduction to the major concepts and applications of Geographic Information Systems (GIS). GIS is a system for management, analysis, and display of geographic information. In this course you will learn about spatial information, digital data and how GIS is used as a tool to represent features, examine relationships between features, and display information. While much of the class is devoted to learning how to use ArcGIS 10.1 software, we will also learn about the applications and uses of GIS, as well as the principles of map design and geo-visualization.

The objective of the class is to learn to solve problems using GIS and display the information in a way that facilitates communication and understanding. We will learn and practice skills by completing exercises, with the goal of being able to use those skills to solve the real problems.

Course Materials:

1) Bolstad, Paul. 2012, GIS Fundamentals: a First Text on Geographic Information System, 5th Edition. Eider Press. ISBN: 9781506695877
   You can get the book from the following sources (you may find a good price for the book from the last two sources):
   - UVU bookstore

   *4th edition can be used in this class. You can find 4th edition from the following sources
   - Amazon (http://www.amazon.com/GIS-Fundamentals-Geographic-Information-Systems/dp/0971764735)
   - AtlasBooks (http://www.bookmasters.com/marktplc/00729.htm)

2) Law, M, Collins, A. 2015, Getting to Know ArcGIS 4th Edition for ArcGIS 10.2 and 10.3. ISBN: 9781589483828
   - A good deal can be found on Amazon (http://www.amazon.com/Getting-Know-ArcGIS-Michael-Law/dp/1589483820)

Arrangements:

- Lectures on Tuesdays and labs on Thursdays.
- Tests will take place on Thursdays, so do in-class activities (including Geospatial Article Presentations).
- Pre-reading quizzes are due at 8:30 on Tuesdays.
- All labs are due at 5 pm on Fridays.
- Project Drafts and Project Final Report are due at midnight on designated dates listed on the syllabus.

Policies: You are expected to follow all University policies and student rights and responsibilities. Please respect your classmates and yourself in the learning process. This includes exercising your utmost integrity in quiz and test taking, not using phones, and not talking disruptively in-class. Open food and drink is not permitted in the lab. Please step outside or to the edge of the classroom to eat or drink. Refer to the following document: http://www.uvu.edu/policies/officialpolicy/policies/show/policyid/172

- **Please come to class prepared** to engage with your classmates and myself by having read the material and keeping up with the assignments.
- **Attendance to both lecture and lab is required** in the normal circumstances. It is the responsibility of the student to obtain any materials (i.e. notes) from other students in the event the student cannot attend class for some reasons.
- You are expected to complete assignments and submit them at the agreed upon times. Because your lowest score is dropped for quizzes and in-class activities, respectively. There are no make-ups on the quizzes and in-class activities.
- Late lab submissions without advance permission by the instructor will cause a grade deduction by half. No labs will be accepted after one week following the due date.
- For any reason you cannot make the exam, you need ask for the instructor's permission one week prior to the exam.

Disabilities:
Students who need accommodations because of a disability may contact the UVU Accessibility Services Department (ASD), located on the Orem Campus in LC 312. To schedule an appointment or to speak with a counselor, call the ASD office at 801-863-8747. Deaf/Hard of Hearing individuals, email nicole.hemmingsen@uvu.edu or text 385-208-2677. Please notify one of the instructors as early in the semester as possible so that arrangements can be made to meet those needs.

Student Assessment Activities and Grading:

2%	Project Poster Draft
5%	Project proposal draft* 1, 2 and 3
8%	Project Final Poster and Poster Presentation
15%	In-class activities--*periodic in-class activities including a presentation on a geospatial article*
10%	Pre-reading quizzes—*these occur pre-lecture to encourage reading and discussion*
15%	Final project report--*you will design and implement a project solving a problem or question*
20%	Tests--*two in class tests composed of multiple choice, matching, short answer questions and short lab components*
25%	Labs--*from the lab manual (you may work together in class but you will submit your own lab)*

**Proposal draft 1: project abstract*
**Proposal draft 2: project abstract and outline*
**Proposal draft 3: should be close to the final version of your project report*
Details on the project proposal format will be provided in class and on Canvas.

Average	**Grade**	**Demonstrated Understanding**
93.5-100%	A	*mastery* of the learning objectives
90-93.5%	A-	
87-90%	B+	
83.5-87%	B	*functional understanding* of the learning objectives
80-83.5%	B-	
77-80%	C+	
73.5-77%	C	*basic achievement* of learning objectives
70-73.5%	C-	
67-70%	D+	
63.5-67%	D	met some learning objectives, but *significant deficits*
60-63.5%	D-	
0-60%	E	*Did not demonstrate understanding of most learning objectives*

CLASS SCHEDULE (subject to changes)

Week	Topic	Reading chapters in Bolstad's book and handouts	Law *et al.* Exercises	Due dates for Labs, Quizzes & Projects
Week 1	Introduction to GIS	Chapter 1	**Read through Ex 1 and 2 before working on Ex 3**	Ex 3 due Online Quiz 1
Week 2	GIS Basic concepts and Tools, Vector and Raster Data Models	Chapter 2	Ex 4, 5	Online Quiz 2; Ex 4, 5 due
Week 3	Datums & Coordinate Systems	Chapter 3	Ex 6	Online Quiz 3; Ex 6 due
Week 4	Map Projections & Coordinate Systems	Chapter 3	Ex 7,8	Online Quiz 4; Ex 7, 8 due **Project proposal draft #1 due**
Week 5	Attribute Data and Tables, Metadata	Chapter 8	Ex 9	Online Quiz 5 **Test 1** Ex 9 due
Week 6	Cartography & Map Production; Geodatabases	Chapter 4	Ex 10, 11	Online Quiz 6; Ex 10, 11 due
Week 7	Digitizing, Editing and Georeferencing with ArcGIS	Chapter 4	Ex 12	Online Quiz 7; Ex 12 due
Week 8	Spatial Analysis I	Chapter 9	Ex 13	Online Quiz 8; Ex 13 due **Project proposal draft #2 due**
Week 9	Spatial Analysis II	Chapter 10, 11	Ex 15, 16	Online Quiz 9; Ex 15, 16 due
Week 10	Aerial and Satellite Images	Chapter 6	Ex 18, 19	Online Quiz 10; Ex 18 due
Week 11	**Fall or Spring Break, NO CLASS**			
Week 12	The future of GIS, Web GIS	Chapter 14, 15	Ex 20	Online Quiz 11; Ex 19, 20 due
Week 13	Project and In-class Activity			**Test 2**
Week 14	Project and In-class Activity			**Project proposal draft #3 due**
Week 15	Project and In-class Activity			**Poster Draft due**
Week 16	Project and In-class Activity			
Week 17	**Final Project Poster Presentation and Final Project Report is due**			