

COURSE SYLLABUS  
**Geography 4840/7840: Geographic Information Systems I**  
Spring 2008

**Instructor:** Yingkui (Philip) Li                      **Office:** 9b Stewart Hall  
**Phone:** 573-882-2879                                **Email:** liyk@missouri.edu  
**Office hours:** 11:00 am-12:30 pm Monday and Wednesday, or by appointment  
**Lecture meets:** Monday & Wednesday            2:00 – 2:50 pm            Stewart 106  
**Lab meets:** Friday                                      2:00 – 2:50 pm            Stewart 107

**TA:** Jeremiah Daniel Steele                      **Office:** 2 Stewart Hall  
**Email:** [jdsvyk@mizzou.edu](mailto:jdsvyk@mizzou.edu)                      **Office hours:** By appointment

**Text Book:** David M. Theobald, *GIS concepts and ArcGIS methods 2<sup>nd</sup> edition*

**Course Website:** <https://courses.missouri.edu/>

**Additional requirement:** A thumb drive (> 256 MB) to store your personal work

**Course objectives:**

In the early days of Geographic Information Systems, this technology provided new tools to look at the world in a spatial way. As GIS has evolved, it has challenged existing theory of geographic analysis and evolved from a system into a science. The goal of this course is to explore the technical and theoretical aspects of GIS. The lecture component of the course will provide an overview of theories and concepts associated with GIS. The lab component will provide an opportunity to apply these concepts to real applications using a specific software system, ESRI's ArcGIS 9.2. By the end of the course you will

- understand theoretical and practical issues surrounding Geographic Information Science
- be able to apply these concepts to real life geographic problems and data using ESRI's ArcGIS software

**Grading System:**

In class exercises and home work assignment	10%
Lab Exercises	30%
Midterms	30%
Final Project	30%
<b>Total</b>	<b>100%</b>

Basic final grade for the course will be calculated as follows:

Graduate students:    A: >= 90%;    B: 80-89%;    C: 70-79%;    D: 60-69%    F: <60%  
Undergraduate students: A: >= 93%;    A<sup>-</sup>: 90-92%;    B<sup>+</sup>: 87-89%;    B: 83-86%;    B<sup>-</sup>: 80-82%  
                                  C<sup>+</sup>: 77-79%;    C: 73-76%;    C<sup>-</sup>: 70-72%;    D: 60-69%;    F: < 60%

## **Course Policies:**

**Attendance:** Attendance is critical to your success in this class. Although I do not explicitly assign a portion of your grade based on attendance, I will keep track of your attendance and your record will be considered in the case of borderline grades. Some lectures will have discussions, in-class exercises and homework assignments. You will be evaluated on your contribution to discussions and in-class assignments, homework assignments, and on the general interest that you show in the class.

**Exams:** Exams will consist of two midterms during the semester. Exams will consist of multiple choice, short answer, and essay questions covering all lectures, readings, and lab exercises. Exams must be taken on the designated day unless prior arrangements have been made. An unexcused absence on the day of the exam will result in a grade of zero.

**Lab assignments:** The GIS labs are very important for this course. All students are required to attend all lab sessions and finish the lab assignment by themselves. Generally, there will not be enough time to complete the lab exercises – these are to be completed outside of class. The lab hours (Stewart 107) are posted outside the door. In addition, the lab will be staffed during a couple nights of the week.

**Final Project:** The final project will allow you to apply what you have learned to a geospatial problem of your choice. Expectations for the project will be greater for graduate students than undergraduate students. It is expected that time will be spent during lab time, as well as outside lab time, in order to complete the project. The final results will be a short poster presentation during the last week of the semester.

**Students with disabilities:** If you have a disability that requires some special accommodation, please make an appointment (*with the letter from the Disability Services*) within the first three weeks of the semester for a visit to my office to discuss the appropriateness of the instructional methods in this class, or any academic adjustments that you may need. To request academic accommodations, students must register with Disability Services, AO38 Brady Commons, 882-4696. It is the campus office that is responsible for reviewing documentation provided by students requesting academic accommodations and for accommodations planning in cooperation with students and instructors, as needed and consistent with course requirements. Another resource, MU's Adaptive Computing Technology Center, 396-2380, is available to provide computing assistance to students with disabilities.

**Cell phones, Headphones and other electronic devices:** Please turn off cell phones during the class time. Headphones and other electronic devices are not permitted in class.

**Academic dishonesty:** Cheating, plagiarism, and other forms of academic dishonesty will not be tolerated. Please refer to pages 9-13 of the M-Book for details regarding the University's policies on academic dishonesty (<http://www.missouri.edu/~mbook/mbook.pdf>).

## COURSE OUTLINE

Week	Date	Lecture	Lab	Reading	Final project
1	01/23-25	Course intro, intro GIS	ESRI-online 1, 2	1	
2	01/28-02/01	GIS data models	ESRI-online 3, 4	2	
3	02/04-08	Coordinate systems & map projection	ESRI-online <b>6, 8</b>	3	
<b>4</b>	02/11	No Class	<b>Lab exam</b>		
	<b>02/13, 15</b>	<b>Mid-term I (On-line course)</b>			
5	02/18-22	Data source and data entry	Lab1	6(212-222)	Assign final project proposal
6	02/25-29	Vector data collection and topology	Lab2	6	
7	03/03-07	Intro GPS & Remote Sensing	Lab3	3 (88-90)	
8	03/10-14	Surface interpolation	Lab4	7 (277-285)	First version of proposal due
9	03/17-21	Vector based spatial analysis	Lab5	9 (334-340), 10	
<b>10</b>	<b>03/24-28</b>	<b>Spring break (No class)</b>	<b>Spring break (No Lab)</b>		
11	03/31-04/04	Raster based spatial analysis	Lab6	7, 8	Proposal review due
12	04/07-11	3D analysis	Lab7		
<b>13</b>	<b>04/14-18</b>	<b>Mid-term II</b>	<b>AAG (No Lab)</b>		Final version of proposal Due
14	04/21-25	GIS future trends	Work on final project	11 (374-402)	
15	04/28-05/02	Work on final project	Work on final project		
<b>16</b>	<b>05/05-09</b>	<b>Final presentation</b>	<b>Final presentation</b>		
<b>17</b>	<b>05/12-16</b>	<b>Proposed final presentation</b>			

- This schedule is a work-in-progress, updates will be posted every week on the Blackboard
- While the specified topics will follow this order, dates may change due to uncontrollable circumstances
- All readings are from the required textbook, except where noted