

# **GEOG 793: Capstone Part 1**

## **Professional GIS Project Design**

### **Fall 2009**

Course Information

Credit Hours: 3

Lecture: Online

Wednesdays 5:30 – 8:00 pm

Website: <http://elms.umd.edu>

Instructor: Hyunwoo Lim

Office: 1167 LeFrak Hall

E-mail: [hwlim@umd.edu](mailto:hwlim@umd.edu)

Phone: 301-405-6584

Online office hours: TBA

#### **Course overview and objectives**

This course is the first part the two culminating courses in profession project design for the Master's of Professional Studies in GIS. The purpose of this course is to design and propose applied GIS project. Topics covered include formulating research problems, reviewing published literature, collecting data, and developing a proposal. In this course, we will also examine current applied GIS projects in the field in order to learn their important components. By the end of the term, each student is expected to complete an individual project proposal. This course will be followed by the subsequent course named Capstone 2 which is concerned with the actual implementations of each student's project proposal.

#### **Textbook**

There is no required text book for this course. Following books can be used as useful references.

Ranjit Kumar, 2005, *Research Methodology: A Step-by-step Guide for Beginners*, 2<sup>nd</sup> edition, Sage Publications: New Delhi.

Dave Peters, 2008, *Building a GIS: System Architecture Design Strategies for Managers*, ESRI Press: Redlands, CA.

#### **Course requirements and grading**

It is strongly encouraged to attend each lecture and actively participate in online discussion in class. Students are required to provide three one-page reviews on papers related to their interest. Research problem statement and literature review will help each student to prepare individual project proposal.

Participation	5%
Paper reviews	20%
Research problem statement	10%
Literature review	10%
Final research proposal	55%

#### **Makeup policy**

Assignments must be turned in by the beginning of the class at which they are due. Online submission through Blackboard is recommended. Late assignments will result in penalties unless prior arrangements are made with the instructor. If you have a documented disability and wish to

discuss academic accommodations, please contact the instructor immediately. Incomplete grades will be only given under extra-ordinary circumstances.

### **Academic honesty**

The University of Maryland, College Park, has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student, you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit [www.shc.umd.edu](http://www.shc.umd.edu).

### **Online Learning**

This is an online course with occasional in-person experiences. We will meet online at the announced time for a live audio/video lecture. The lecture will be archived for anyone who absolutely must miss the class, but I encourage you to login at the appointed time so that you can ask questions.

Our class will meet through Blackboard, the university's online learning system. Go to <http://elms.umd.edu> to access the course. After you login, our course will be listed in the right column under My Courses. Click on the course link to access the course.

Short videos that illustrate how to use the online learning system are available on the course page. Click the Tutorials button on the left sidebar to access the tutorials.

### **Hardware and Software Requirements for this course**

All students must have a UMD glue account to obtain permissions to access the software in the lab and on the Citrix server. If you have never worked in the Open Lab, contact me to get permission.

You may use either a PC or a Macintosh computer to access Blackboard. Whichever you choose, it must be equipped with the following hardware:

- Webcam
- Headset (including headphones and microphone)

You will also need the following plug-ins (be sure you have the latest versions):

- Real Media
- Flash Player
- Quicktime for PCs
- Quicktime with the Flip4Mac plugin (for Macs)
- FTP software: we recommend Secure FTP for PC and Fetch for Mac. Both of these are free downloads from <http://helpdesk.umd.edu> -- scroll down and choose Software Downloads. If you choose to use a different FTP software, it must be capable of SFTP (secure uploads).

### **Support for Online Learning**

This method of taking classes is undoubtedly new to some of you, so we have a few tools to make life easier for you.

### Email

Instructor will be always available for contact by email. Use the email link in the sidebar to send us emails at any time. Instructor will try to answer within 24 hours and probably much sooner.

### Online office hours

Online office hours will be provided through Live Classroom each week. The times will be posted in the Announcements. Use the link in the sidebar to access office hours.

### On campus office hours

We will post times when we will be available on campus for face-to-face office hours.

### Lounge

We have created a place for you to visit with your classmates. This discussion board uses both text and voice. Share everything from discussions about the course material to what you did last weekend. I will look in from time to time but I probably won't respond to anything posted here.

### Study Rooms

Several study rooms have been set up for you to form study groups with your classmates. We will not be monitoring these rooms. Remember that the Honor Code specifies that you are free to work together to discuss the assignments but that you must then separately produce an original and independent result.

## **Tentative Course Schedule**

Dates	Topics	Assignment
Sep 2	Course introduction Overview of research process Searching for literature	Paper review 1
Sep 9	How to write a literature review	Paper review 2
Sep 16	Formulating research problem Case study: Web GIS application and semantics	Paper review 3
Sep 23	Identifying variables Constructing hypotheses Case study: Modeling land use land cover change using remote sensing and agent based simulation	Paper review 4
Sep 30	Conceptualizing a research design Selecting a study design	Literature review

Oct 7	Qualitative data collection through interviews and questionnaires Ethical issues of collecting data on human subjects	Problem statement
Oct 14	Case Studies: Identifying point sources of ground water pollution Exploring Soil Water Assessment Tool (SWAT) model in the Choptank River Basin	
Oct 21	Writing a research proposal Case study: Building and managing enterprise GIS	
Oct 28	Student presentations	
Nov 4	Student presentations	Final proposal due