

**Geography 797
Professional Project (Capstone Project)
Fall 2015**

Instructor: Eunjung (Elle) Lim

Lecture: Online Mondays 5:30 – 8:00 pm
On campus 1166 LeFrak Hall

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Online office hours: Mondays 8-9 pm

On-campus office hours: Thursdays 2-3 pm

Course Description

This course is designed to provide a project environment through which you practice and integrate what you have learned through the Master of Professional Studies in GIS. The purpose of this course is to design and develop an applied GIS project. Topics covered include formulating research problems, reviewing published literatures, collecting data, designing, implementing, and reporting a GIS project. By the end of the term, each student is expected to complete an individual project. The project will be a GIS application that can be tested, demonstrating the student's ability to manage and develop a GIS application project in real world situation. The final project product should also serve as a portfolio of what you have accomplished in the MPSGIS program. There are weekly lectures but no lab sessions.

Textbooks (Optional)

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

- J. Gatrell, G. Bierly, and R. Jensen (2012) *Research Design and Proposal Writing in Spatial Science*, 2nd edition, Springer.
- R. Kumar (2014) *Research Methodology: A Step-by-step Guide for Beginners*, 4th edition, Sage Publications.
- D. Peters (2012) *Building a GIS: System Architecture Design Strategies for Managers*, 2nd edition, ESRI Press.
- K.W. Yeung and G.B. Hall (2007) *Spatial Database Systems: Design, Implementation and Project Management*, Springer.
- U.M. Shamsi (2005) *GIS Applications for Water, Wastewater, and Stormwater Systems*, CRC Press.
- J. Maantay and J. Ziegler (2006) *GIS for the Urban Environment*, ESRI Press.
- E. K. Cromley and S. L. McLafferty (2011) *GIS and Public Health*, 2nd edition, The Guilford Press.

Grading

The distributions of grade among lab assignments, participation, and final project are:

- Lab Assignments = 25% (Five assignments; Each accounts for 5% of the final grade)
- Presentations = 10% (Two presentations; Each accounts for 5% of the final grade)
- Project Proposal = 10%
- Final Project = 50% (Poster = 10%; Report = 40%)

- Participation and Discussion = 5% (Includes Online Project Update)

It is strongly encouraged to attend each lecture and actively participate in online discussion board as well as in class. Students are required to post a reply on the issue posted by the instructor. The plus/minus grading system will be used to assign student grades. Minor adjustments to this scale might be made based on the performance of the class as a whole.

Lab Assignments

Besides the final project, there are a total of five (5) lab assignments and each account for 5% of the final grade. The due date will be specified in the lab document. Late submission of lab reports may result in a deduction of points. However, in some situations (e.g. medical or family emergency), extension is possible if you contact the instructor before the due date. All labs must be completed by the end of the quarter.

Capstone Project

The project can either be one of two tracks: a research-based project or an application-based project. Either way, all projects must consist of: (1) a proposal, (2) a poster, (3) a report, and (4) two presentations. The first presentation (Project Proposal) will be online and the second presentation (Final Project) must be made in person (at College Park). Additional project guidelines will be provided throughout the class.

Software

You can use either a PC or Mac to access ELMS. Whichever you choose, it should be equipped with headphones and microphone. The following software may be utilized, depending on your project:

- ESRI ArcGIS 10.X with Python 2.7
- Open-source Software such as QGIS, GRASS, LAStools, etc...

The software required for this class is available in the open lab (located in 1136 and 1138 LeFrak Hall). If you need a personal copy of ArcGIS for your computer, please contact me by e-mail before class.

Make-up Policy

Assignments must be turned in by 5:00PM at which they are due. 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. Students should not expect 'Incomplete' grade as they will be only given under extra-ordinary circumstances.

Class Attendance and Environment

You are strongly recommended to attend every lecture in real time at the online site. During this time you can follow along and ask questions. The lecture will be archived for anyone who absolutely must miss a class, but I encourage you to join the class online at the appointed time so you can ask questions and keep up with the course. It is important to recognize that the classroom is an environment that requires respect for all participants. Therefore, students are expected to conduct themselves in a considerate manner.

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

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

Online office hours

We will have office hours in a 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. The TAs will have lab office hours on periodic Saturday mornings.

Online Discussion & Chat rooms

We have created places for you to visit with your classmates. 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.

Academic Integrity

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 <http://www.shc.umd.edu>. Within our class, students may work together to review class notes and home assignments. However, assignments must be done individually. Each student must turn in his or her own work, from his or her own computer. Any discussion or problem solution must be his or her alone, without assistance from any other person.

Medical Excuses

Campus Senate policy requires students who are absent due to illness/injury to furnish documentary support to the instructor. I require students to contact me by email or by phone prior to class time in which you indicate that you have an illness or an injury. You must provide written documentation verifying your illness/injury immediately upon your return to class. You will not be allowed to turn in missed assignments or make up quizzes, tests, papers, etc. if you have not provided this documentation. Documentation not presented to me in a timely manner will not be accepted. In addition, if it is found that you have falsified the documentation provided, I will refer you to the University's Student Conduct Office.

Disabilities and Religion

Any student with a disability is encouraged to meet with the instructor privately during the first week of class to discuss accommodations. I will make every effort to accommodate students who

are registered with the Disability Support Services (DSS) Office and provide a DSS accommodation form. Please refer to the Online Undergraduate Catalog Policy on Religious Observance.

Course Schedule

This is a tentative schedule and may be adjusted to suit our class. Guest speakers to be announced (TBA).

Week	Date	Lecture Topics	Assignments
1	Aug. 31	Course introduction Overview of the research process Formulating a research problem Discuss progress + Review lab assignment	Lab 1 Out
2	Sep. 8	Searching for literature + Writing a literature review Review students' research topics Discuss progress + Review lab assignment	Lab 1 Due Lab 2 Out
3	Sep. 14	Writing a project proposal + Outline + Abstract Timeline and Flowchart Software Discuss progress + Review lab assignment	Lab 2 Due Lab 3 Out
4	Sep. 21	Identifying variables + Constructing hypotheses Useful data sources + Writing a methodology Discuss progress + Review lab assignment	Lab 3 Due Lab 4 Out
5	Sep. 28	Guest speakers (TBA) Discuss progress + Review lab assignment	Lab 4 Due Lab 5 Out
6	Oct. 5	Steps for implementation Discuss progress + Review proposal	Lab 5 Due
7	Oct. 12	Project Proposal Presentations - Online (Slides)	Proposal Due
8	Oct. 19	Writing a report - Structure and guidelines Discuss progress + Review final report	
9	Oct. 26	Writing a report - Structure and guidelines Discuss progress + Review final report	
10	Nov. 2	Final Project Presentation - On Campus (Seminar & Poster)	Final Report Due * Seminar or Poster Symposium

*The Final Report will be due by the final day of classes, which is **Sunday Nov. 8th**.

Lab 1 - Identify Research Problem

Lab 2 - Literature Review

Lab 3 - Timeline and Flowchart

Lab 4 - Data

Lab 5 - Methods