Syllabus: GEOG797 - Professional Project (Capstone)

Instructor
Dr. Jonathan P. Resop (resop@umd.edu)
Office Hours: On-campus: Wednesdays 3 to 5 pm (or by appointment)
Location: 1111 LeFrak Hall
Teaching Assistant
Talya Gulman (tgulman@umd.edu)
Office Hours: By Appointment
About the Course
Time: 5:30 to 8 pm Wednesdays (Lectures); No Lab Sessions
Location: Online: http://elms.umd.edu; Campus Location: TBA LeFrak Hall

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
There is no required text book for this course. Following books can be used as useful references.
- J. Gatrell, G. Bierly, and R. Jensen (2005) Research Design and Proposal Writing in Spatial Science, Springer.
- R. Kumar (2005) Research Methodology: A Step-by-step Guide for Beginners, 2nd edition, Sage Publications.
- D. Peters (2008) Building a GIS: System Architecture Design Strategies for Managers, 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 (2002) GIS and Public Health, The Guilford Press.

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 a design-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.

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

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.

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

Offline and Online Office Hours
I will be available to meet on campus for office hours at specified times. You can also email either the TA or the instructor to set up individual office hours by appointment. If needed, I can provide online office hours if you are unable to meet on campus. Simply send me an e-mail to request a time to meet.

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.

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.

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 the 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 lab assignments. However, labs must be done individually. Students must turn in their own work without assistance from another student.

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	Mar. 4	Course introduction Overview of the research process Formulating a research problem Discuss progress + Review lab assignment	Lab 1 Out
2	Mar. 11	Searching for literature + Writing a literature review Review students' research topics Discuss progress + Review lab assignment	Lab 1 Due Lab 2 Out
	Mar. 18	Spring Break	
3	Mar. 25	Writing a project proposal + Outline + Flowchart How to write an introduction and abstract Discuss progress + Review lab assignment	Lab 2 Due Lab 3 Out
4	Apr. 1	Identifying variables + Constructing hypotheses Useful data sources Discuss progress + Review lab assignment	Lab 3 Due Lab 4 Out
5	Apr. 8	Guest speakers (TBA) Writing a methodology Discuss progress + Review lab assignment	Lab 4 Due Lab 5 Out
6	Apr. 15	Steps for implementation Discuss progress + Review proposal	Lab 5 Due
7	Apr. 22	Project Proposal Presentations - Online (Slides)	Proposal Due
8	Apr. 29	Project Proposal Presentations - Online (Slides)	
9	May 6	Writing a report - Structure and guidelines Discuss progress + Review final report	
10	May 13	Final Project Presentation - On Campus (Poster)	Final Report Due * Poster Symposium

*The Final Report will be due by the final day of classes, which is **Sunday May 17th**.

Lab 1 - Identify Research Problem
Lab 2 - Literature Review
Lab 3 - Timeline and Flowchart
Lab 4 - Data
Lab 5 - Methods