GGS 653: Geographic Information Analysis
Course Syllabus, Spring 2019, 3 Credits

INSTRUCTOR

Name:	Dr. Timothy Leslie
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COURSE BASICS

Meeting times:	W 4:30 - 7:10pm
Location:	2103 Exploratory Hall
Web location:	Blackboard (courses.gmu.edu)
Office hours:	By appt.

PRE-REQUISITES   GGS 553 - Geospatial Information Systems
                              (or previous coursework/experience in GIS)

GGS 560 - Quantitative Methods (or a comparable statistics/methods course)

SUGGESTED TEXTS   No required textbook. Additional readings will be available via Blackboard. Students will also be responsible for gathering peer-reviewed articles for use in a literature review.

OVERVIEW & OBJECTIVES

Analysis comes in many shapes and forms. GGS 653 explores existing and potential capabilities of geographic information systems in conducting spatial analysis and modeling. An emphasis is placed on how geographic information analysis is used in the larger process of conducting scientific research. Throughout the course, students are required to complete a rigorous, high-quality research project of their own choosing. Weekly material will cover how geographic information and GIS are used throughout the research process, as well as more advanced applied GIS topics such as spatial statistical analysis, temporal analysis, and data visualization.

ASSIGNMENTS & EXPECTATIONS

GGS 653 is a project-driven course. Students are required to obtain a high-quality spatial data set, develop a research question, complete an analysis, and draft a final project paper. Evaluation of the project will be distributed throughout the semester among updates, an initial submission, a revised submission, and a short presentation as detailed below. Students will be required to submit 4 literature review assignments/exercises, which will be "directed" searches and reviews (provided via assignment sheets). Students will be responsible for locating relevant literature that is related to their project. All submissions will be done through Blackboard. While unlimited submissions are permitted in Blackboard, only the most recent submission will be graded. Submissions are due 15 minutes before the start of class unless noted otherwise. No late work will be accepted without a documented excuse.

You are expected to be respectful of your peers and your instructor in both words and actions. This ranges from classroom interactions to the simple act of showing up to class on time. While this is a computer classroom, the computers are for the purpose of further your GIS education and writing up your research. You are expected to be respectful of your peers and your instructor and to not engage in activities that are unrelated to the class.

My last name is pronounced LES-LEE. My preference is that you address me as "Professor," "Professor Leslie" or "Dr. Leslie." If there is a specific way that you would like me to address you—including certain pronouns— please notify me as soon as possible. Neither one of us should be offended if we can help it.

This class is a graduate course designed for students with an understanding of geographic information systems, and your work should show **attention to detail.** Grading emphasis will focus on both the completion of the

assignment as well as the quality of the submitted document.

You will likely want a thumb drive or some other form of portable (or easily accessible) storage device/service.

GRADING SCHEMA

Assessment	% (of final grade)	Assessment	% (of final grade)
Directed Lit Reviews (4)	15%	Update 1	10%
Peer Review	10%	Update 2	15%
Oral Presentation	10%	Paper Submission	30%
		Paper Revisions	10%

Grades generally follow 90/80/70 with plus/minus being within 3 percent of the cutoffs. I reserve the right to alter the exact boundaries at the end of the semester. If you are not satisfied with your progress during the semester, please see me as early as possible; do not wait until the end of the semester to address these concerns.

GGS COMPUTER LAB ASSISTANCE

All students in GGS courses should receive "swipe" access (using your Student ID) to the GGS Student Computer Lab (Room 2102, Exploratory Hall) upon registering for the course. If you are having problems with door access, please e-mail GGS administrator Sam Cooke (scooke4@gmu.edu) with SWIPE ACCESS in the subject line of your email.

If you experience problems with the computers (e.g., software or hardware issues) in the GGS Student Computer Lab, please email College of Science IT (cosit@gmu.edu) for technical assistance.

Please copy Dr. Leslie on any e-mail correspondence to outside parties if it is related to this course.

GMU EMAIL ACCOUNTS

Students must use their MasonLive email account to receive important University information, including messages related to this class. See http://masonlive.gmu.edu for more information.

ACADEMIC INTEGRITY

The integrity of the University community is affected by the individual choices made by each of us. GMU has an Honor Code with clear guidelines regarding academic integrity. Three fundamental and rather simple principles to follow at all times are that: (1) all work submitted be your own; (2) when using the work or ideas of others, including fellow students, give full credit through accurate citations; and (3) if you are uncertain about the ground rules on a particular assignment, ask for clarification.

Plagiarism means using the exact words, opinions, or factual information from another person without giving the person credit. Writers give credit through accepted documentation styles, such as parenthetical citation, footnotes, or endnotes. Paraphrased material must also be cited, using MLA or APA format (or similar). A simple listing of books or articles is not sufficient.

The principle of academic integrity is taken seriously, and violations are treated gravely. No grade is important enough to justify academic misconduct, and ignorance is not an excuse. Please see the University Catalog for a

full description of the code and the honor committee process.

DIVERSITY

George Mason University promotes a living and learning environment for outstanding growth and productivity among its students, faculty and staff. Through its curriculum, programs, policies, procedures, services and resources, Mason strives to maintain a quality environment for work, study and personal growth. An emphasis upon diversity and inclusion throughout the campus community is essential to achieve these goals. Diversity is broadly defined to include such characteristics as, but not limited to, race, ethnicity, gender, religion, age, disability, and sexual orientation. Diversity also entails different viewpoints, philosophies, and perspectives. Attention to these aspects of diversity will help promote a culture of inclusion and belonging, and an environment where diverse opinions, backgrounds and practices have the opportunity to be voiced, heard and respected. Notably, individuals are asked not to speak for the experience of others, nor to ask others to account for an entire demographic of which they may belong.

OFFICE OF DISABILITY SERVICES

If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Services (ODS) at 993-2474, http://ods.gmu.edu. All academic accommodations must be arranged through the ODS.

OTHER GMU RESOURCES

The Writing Center: http://writingcenter.gmu.edu

University Libraries, Ask a Librarian: http://library.gmu.edu/ask

Counseling and Psychological Services: http://caps.gmu.edu

University Catalog: http://catalog.gmu.edu

University Policies: http://universitypolicy.gmu.edu

OUTLINE & TENTATIVE SCHEDULE (subject to change)

		LECTURE TOPIC	SUPPLEMENT	DUE
1	Jan 23	Introduction Conducting Lit Searches		
2	Jan 30	Research Questions Scale & Representation		LIT REVIEW #1
3	Feb 6	Outlines Basic Spatial Analysis		LIT REVIEW #2
4	Feb 13	Intros Space and Regression		PROJECT UPDATE #1
5	Feb 20	Lit Reviews, redux Interpolation, Kernel Density		
6	Feb 27	Grouping Visualization		LIT REVIEW #3
7	Mar 6	Methods & Data Cartographic Modeling		
	Mar 13	No Class, Spring Break		
8	Mar 20	Results and Discussion Time		PROJECT UPDATE #2
9	Mar 27	Conclusions Categorical Analysis		LIT REVIEW #4
	Apr 3	No Class, Project Work Time		
10	Apr 10	Abstracts Project Discussions		
11	Apr 17	Peer Review Research Presentations		FINAL PAPER
12	Apr 24	Undertaking Revisions Formatting for Journals		PEER REVIEW
13	May 1	Summary		
	May 8	Project Presentations		REVISED PAPER PROJECT PRESENTATION