

GGG 653: GIS Analysis and Application

Course Syllabus, Fall 2021, 3 Credits

INSTRUCTOR

Name: Dr. Timothy Leslie
Office: 2207 Exploratory Hall
Email: tleslie@gmu.edu

COURSE BASICS

Meeting time(s): T 4:30 – 5:45pm
Location: Exploratory Hall 2301
Modality: 50% synchronous, 50% asynchronous
Course URL: mymasonportal.gmu.edu

PRE-REQUISITES GGS 553 (Suggested), 560 (Suggested)

TEXTBOOK(S) No required textbook. All external content will be available electronically.

OVERVIEW & OBJECTIVES

Applying GIS through analysis is the art and science of investigating and sharing patterns in spatial data. An emphasis is placed on how geographic information analysis is used in the larger process of conducting scientific research. Material will cover how geographic information and GIS are used throughout the research process, as well as more advanced GIS topics such as spatial statistical analysis, temporal analysis, and data visualization. The goal is to teach you how to think about how to answer geographic problems in a robust and scientific manner.

Throughout the course, students are required to complete a rigorous, high-quality research project of their own choosing to apply quantitative data to real world problems and accurately state what the data tells us about the problem at hand. This research activity involves The Creation of an Original Scholarly Project, which includes:

- a) Articulating and Refining a Geographic Research Question,
- b) Gathering and Managing the Spatial Data Necessary to Answer this Question,
- c) Executing the Appropriate Spatial Methods, and
- d) Applying Appropriate Scholarly and Cartographic Conventions in Presentation.

At the end of the course, each student will have a greater grasp of the research process, a deeper understanding of the ways in which spatial analysis can be implemented, and insight into a particular geographic problem.

COURSE ASSESSMENT

You will be assessed in your attainment of the course learning outcomes through several methods. The groupings and weights of those assessments are listed below.

	Assessment %
Module Content Exercises	30%
In-Class Presentation	5%
Reading Reflections and Activities	10%
Software Demonstrations	5%
Project Milestones	50%

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.

Each student will participate in a course project. Evaluation of the project will be distributed throughout several updates and submissions. Details are provided as part of the online asynchronous instruction.

COURSE-SPECIFIC TECHNICAL ELEMENTS

This class will teach the technical application elements in ESRI products, the dominant software deployment used in the United States. You are free to use open source (QGIS), command line (R), or other software as you see fit.

- There are no student/take-home licenses for this software. If you wish to obtain software for your personal machine, such elements are outside the scope of course instruction.
- You will be required to obtain the relevant spatial dataset for your final project.

STUDENT EXPECTATIONS

When part of this course, 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. Coming late to class disturbs class activities and the learning process.

- You are expected to come to class prepared to learn and engage.
- You are expected to focus on class and refrain from activities that are unrelated to the class during course time. Cell phones and other communicative devices are not generally part of the pedagogical elements of this course.
- Vigorous discussion and debate are encouraged in this course, with the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives, and traditions.

GRADING STRUCTURE AND POLICIES

Each student in a course will be afforded the same opportunities, held to the same requirements, and evaluated according to the same criteria, except as required by university policies on the accommodation of students with disabilities or in the case of graduate and undergraduate students enrolled in the same course. Final grades will be assigned based on a “No Minuses” system. While I reserve the right to alter the precise boundaries, the expected bracketing system is the following:

	A	B+	B	C+	C	D
Undergraduates	100 - 91	90.9 - 87	86.9 - 81	80.9 - 77	76.9 - 71	70.9 - 60
Graduates	100 - 91	90.9 - 87	86.9 - 81		80.9 - 71	

Your assignments should be done neatly, professionally, and show attention to detail. Grading emphasis will be focused on the quality of the submission, including the presentation.

Assignments due on a University closure or delay date are still due on that day unless otherwise specified. If the campus closes or class is canceled due to weather or other concern that impacts class, modifications to any changes to events or assignments for class will be announced via Blackboard.

EXTRA CREDIT

I do not generally offer or entertain requests for extra credit opportunities in this class. Extra credit is extra work, and students who are having difficulty completing the required coursework seldom have the time to complete additional assignments. If extra credit opportunities arise throughout the course of the semester, they will be announced and provided equitably to the entire class.

INSTRUCTOR AVAILABILITY

The best way to get ahold of me is by scheduling an appointment or sending me an email.

Scheduling an appointment is managed through Navigate (navigate.gmu.edu). To schedule an appointment, first login. On the home page, click “Get Assistance”. On the following page choose “Academic Advising” for the type of appointment, “Faculty office hours” for the meeting type, and “Geography Course Office Hours” for the Major/Program/Service. In the third page, choose “Department of Geography & Geoinformation Science” as your location, and then type my last name (it should pop up after a few letters) in the Staff member box. The next page lets you pick a time slot, and the final page confirms the appointment. If you are having trouble seeing my

availability, please check that you are in the proper semester in the drop-down box in the upper right corner of the screen. You can schedule an appointment up to 6 days ahead of time through this process. If these time slots do not align with your availability, please email me with at least three possible meeting times and we will find a mutually convenient alternative.

Students who e-mail me Monday - Thursday can ordinarily expect a response within 24 hours. Students who e-mail after 5 PM on Thursday or over the weekend can ordinarily expect a response by noon on the following Monday. As email accessibility can be variable during the day, questions regarding course elements due the same day should be sent with tempered expectations.

Students can expect to have grades on submitted material within 7 days of submission. Please wait on follow-up for at least that long.

TECHNICAL EXPECTATIONS

Activities and assignments in this course will regularly use the Blackboard learning system. Students are required to have regular, reliable access to a computer with an updated operating system and a stable broadband Internet connection. Elements of the course may also incorporate web-conferencing software such as Blackboard Collaborate and Zoom. For these sessions, students are required to have a device with a functional camera and microphone. I do not require cameras to be turned on, but do appreciate it.

Students seeking to use proprietary software off-campus and/or on non-Windows machines are directed to the Citrix Virtual Lab, for which instructions are provided on the course website. Software keys for self-installation are not provided.

The ability to manage files without assistance is an underlying requirement for completing the course activities. You will likely want some form of portable (or easily accessible) electronic storage. Many of the files we will use are very large. I strongly suggest using a cloud service such as OneDrive or dropbox.com. Please save frequently while working on any assignments (e.g. lab2a, lab2b, lab2c, for example) and keep separate backups. Saving your work to a Mason machine or virtual machine is NOT a reliable storage method.

I do not serve as technical support. For elements of the course website not related to unlocking course content, there are links to the Blackboard help and Mason ITU support on the course website.

When posting in an electronic space, where it is in the classroom chat or course discussion board, be cognizant of your grammar, spelling, diction and tone. The same rules established for face-to-face discussions apply in these electronic spaces. Emoji or acronyms and abbreviations like BTW, NTTAWWT, INCYMI, IANAL, WT*, SOB and U have no place in a classroom context.

SUBMISSIONS

All submissions will be done through Blackboard.

- For assignments with multiple submissions in Blackboard, only the grade of the most recent submission will be graded / counted.
- Unless otherwise stated, you have **one** attempt to take any quiz or exam.
- The default level of grading feedback is a relatively minimal listing of point deductions. If you are interested in more detail in particular area, please note it in your submission notes, or follow up via email or scheduling a meeting.
- Unless otherwise specified, only assignments submitted as PDF or Microsoft doc(x) files will be graded.
- Some labs and assignments can take much more time than they might you might initially expect.

Due dates are firm. As a general policy, no late work (even by a minute) will be accepted for grading without a documented excuse. Unless stated otherwise, late or missing assignments will be scored with a zero.

- Documentation examples could include a calendar of religious observances, a conference program that includes your presentation, military obligations, conflicts with university-sanctioned activities documented by an appropriate university administrator, documented personal or family emergencies, or illness documented by a physician or other appropriate health care professional. The student is responsible for notifying the instructor in writing with as much advance notice as possible.
- The only exception to the no-late-work policy is the LateToken. Each student gets one LateToken. The LateToken is redeemable for one late submission within 48 hours of the due date with no deductions or justifications required/requested. The LateToken will be automatically used in the first late submission unless I am explicitly emailed otherwise. Usage is one-time, irrevocable, and cannot be reinstated if deferred.
 - Certain course elements are not eligible for LateToken usage because of the importance of the timeliness to the course schedule. They will be clearly marked as such.
 - There are posted end-of-semester cutoffs for all module and project content to be submitted, late or otherwise. These cutoffs are not avoidable using a LateToken.
 - The availability or usage of an individual's LateToken will be listed in the Blackboard Gradebook.
 - There are no additional accommodations for personal power outages, internet blackouts, software glitches, or hardware malfunctions.

DIVERSITY AND INCLUSION

George Mason University supports and recognizes that an inclusive and welcoming community is linked to our strategic goals and key to building a sense of belonging and well-being. I share this vision and am committed to its implementation at all levels and in all ways.

Diversity is broadly defined to include such characteristics as, but not limited to, race, economic status, ethnicity, gender expression and identity, national origin, first language, religion, age, and disability. Diversity also entails different viewpoints, philosophies, and perspectives. We welcome and value individuals for their unique contributions. Attention to the breadth of diversity will help promote a culture of inclusion and belonging, where diverse opinions, backgrounds, and practices have the opportunity to be voiced, heard and respected. All members of the learning environment are encouraged to engage with the material personally, but to also be open to exploring and learning from experiences different than their own. Such an environment fosters growth and productivity among students, faculty and staff.

The reflection of Mason's commitment to diversity and inclusion goes beyond policies and procedures to focus on behavior at the individual, group and organizational level. The implementation of this commitment to diversity and inclusion is found in all settings, including individual work units and groups, student organizations and groups, and classroom settings; it is also found with the delivery of services and activities, including, but not limited to, curriculum, teaching, events, advising, research, service, and community engagement. Notably, individuals are asked not to speak for the experience of others, nor to ask others to explain 'the mindset' of an identity they may have.

The University enables students and employees to use a chosen first name and indicate their pronouns where possible, except when use of a legal name is required by University policy or state/federal law. I use male pronouns (he/him), and my last name is pronounced LESS-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— I encourage to let me know as well as to update your Mason file in Patriotweb. The Mason Code of Student Conduct expects that students will use the preferred name of their classmates and instructor.

The University promotes continuous monitoring and self-assessment regarding inclusivity. Please contact me immediately if any elements of the course or institution, including my own statements or actions, are inconsistent with the University’s aspirations so that they may be remedied.

PRIVACY

Student privacy is governed by the Family Educational Rights and Privacy Act (FERPA) and is an essential aspect of any course.

- All course materials posted to Blackboard or other course site are private; any materials that identify specific students (via their name, voice, or image) must not be shared with anyone not enrolled in this class.
- Live Video Conference Meetings (e.g. Collaborate or Zoom) that include audio or visual information from other students must be viewed privately and not shared with others in your household.
- As your instructor, I cannot discuss your educational record with your parents, your friends, or anyone except for you without explicit written permission. Because your GMU email is the only one that can be identified as belonging to you, the only way to communicate with you via email is through your GMU address. If you send communications from a non-GMU email account, you will receive a response telling you to use your GMU email.
- Outside video and/or audio recording is permitted only with the prior written consent of the professor or if recording is part of an approved accommodation plan. Recordings of class meetings that include audio or visual information from other students are private and must not be shared.
- No unauthorized guests will be permitted in class.

OFFICE OF DISABILITY SERVICES

I am committed to providing equitable access to learning opportunities for all students by upholding the laws that ensure equal treatment of people with disabilities. Under the administration of University Life, Disability Services implements and coordinates reasonable accommodations and disability-related services that afford equal access to university programs and activities. Students can begin the registration process with Disability Services at any time during their enrollment at George Mason University.

If you are seeking accommodations for this class related to any sort of disability, please first visit <http://ds.gmu.edu/> for detailed information about the Disability Services registration process. Students who suspect that they have a disability, temporary or permanent, but do not have documentation are encouraged to contact DS for advice on how to obtain appropriate evaluation. I encourage students who are considering using their accommodations to declare and discuss them with me as soon as possible, as I can only provide accommodations after receiving the authorizing documentation from Disability Services.

SEXUAL HARASSMENT, SEXUAL MISCONDUCT, AND INTERPERSONAL VIOLENCE

George Mason University is committed to providing a learning, living and working environment that is free from discrimination and a campus that is free of sexual misconduct and other acts of interpersonal violence in order to

promote community well-being and student success. We encourage students who believe that they have been sexually harassed, assaulted or subjected to sexual misconduct to seek assistance and support.

As a faculty member and designated “Responsible Employee,” I am required to report all disclosures of threats or occurrences of sexual assault, interpersonal violence, and stalking to Mason’s Title IX Coordinator. If you wish to speak with someone confidentially, please contact the Student Support and Advocacy Center (703- 380-1434), Counseling and Psychological Services (703-993-2380), Student Health Services, or Mason’s Title IX Coordinator (703-993-8730; cde@gmu.edu).

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 and dishonest practices. 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.

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). It is your responsibility to understand what constitutes plagiarism and familiarize yourself with the Honor Code. Under no circumstances is it permissible to cheat, plagiarize, steal, or lie in matters relating to academic work.

With independent submission, you may discuss your ideas with others and conference with peers on drafts of the work; however, it is not appropriate to give your paper to someone else to revise. You are responsible for making certain that there is no question that the work you hand in is your own. If only your name appears on an assignment, your professor has the right to expect that you have done the work yourself, fully and independently. If the assignment involves collaborative work, the names of all contributors should appear on the work.

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. All Honor Code referrals from this course will recommend a sanction of at least course failure. The official GMU policies are available from the Office of Academic Integrity: <https://oai.gmu.edu/>

Participation in some kinds of online study sites violate the Mason Honor code: these include accessing exam or quiz questions for this class; accessing exam, quiz, or assignment answers for this class; uploading of any of the course materials or exams; and uploading any of your own answers or finished work.

OTHER GMU RESOURCES

There are numerous campus resources that are available to help you succeed. For more details, please see a list of some of these resources online at <http://ctfe.gmu.edu/teaching/student-support-resources-on-campus/>. A few of these include

- Counseling and Psychological Services
- Mason Food Pantry
- Student Support and Advocacy Center