GGS 310/551: Intro to Digital Cartography / Thematic Cartography

Course Syllabus, Spring 2020, 3 Credits

INSTRUCTOR

Name: Dr. Timothy Leslie

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COURSE BASICS

Meeting times: W 7:20 - 10pm

Location: 2310 Exploratory Hall

Web location: Blackboard (courses.gmu.edu)

Office hours: By appt.

PRE-REQUISITES None. Students will find a comfort and understanding of GIS and spatial data is beneficial.

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

Cartography encapsulates both the art of and science governing map creation, and this course, at its core, is about the creation and production of maps. Maps are important communication and decision support tools. The skills of map production according to established cartographic conventions are, therefore, essential to many managers, technicians, and scientists. We will engage this visual form of communication across a wide array of dimensions, fostering "good" maps that are informative, creative, easy to understand, and aesthetically pleasing. Through this course, a successful student will:

- Display an understanding for the diversity of representation forms and map types that geographers and other researchers use to communicate spatial phenomena. This understanding includes understanding how form aligns with geographic data, phenomena, patterns, and processes.
- Demonstrate a mastery of design theory concepts regarding the usage of scale, projections, symbolizations, classification, colors, typography, within the context of effective spatial communication. This mastery includes a critical eye for effective visualization and good design.
- Implement cartographic concepts to create professional-quality maps and other visual products that are used as a communication product or for data exploration.

These objectives will be completed through the objective imparting of knowledge from teacher to student, the development of skills through lab-based design exercises, and the practice of map critique. The lecture focuses on cartographic principles, mapping techniques, and visualization method. We will work through the process of communicating spatial messages effectively by developing an understanding cartographic guidelines and accepted design practices. A substantial component of this course is comprised of sequential map design and production exercises that involve the use of one or more software packages. Additional focus will be placed on strategies to guide product design toward intended audiences, tasks, and contexts.

STUDENT EXPECTATIONS

Within the classroom, 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 and is exacerbated by the room structure.

- You are expected to come to class prepared to learn and engage.
- 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.
- Cell phones and other communicative devices are not part of the pedagogical elements of this course. Please keep them stowed away and out of sight. Such disruptions show a lack of professionalism.
- While this is a computer classroom, the computers are for the purpose of furthering your geographic education related to this course. You are expected to not engage in activities that are unrelated to the class.

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

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—please notify me as soon as possible.

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.

INSTRUCTOR AVAILABILITY

There are no official office hours for this course, appointments are by mutually convenient appointments and are arranged by e-mail. Please do not hesitate to contact your instructor if you have questions about course topics or assignments. Due-day questions regarding lab assignments or exam content should be avoided as I may not have email accessible immediately before deadlines.

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.

Undergraduate Assessment	**%** (of final grade)	**Graduate Assessment**	**%** (of final grade)
Midterm Exam	25%	Midterm Exam	20%
Final Exam	25%	Final Exam	20%
Lab Assignments	30%	Lab Assignments	20%
Post-Class Engagement	5%	Post-Class Engagement	15%
Final Project		Final Project	20%
Map Critique	5%	Map Critique	5%

Grades generally follow 90/80/70/60 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.

Most weeks there will be a laboratory assignment. Labs are designed to apply the cartographic theories discussed in class in a hands-on environment. Labs assignments will have firm due times and dates and are submitted online through blackboard. Late work is scored as a 0. **Never underestimate the time you will spend on the assignments.** Technical excuses ("computer system error", "didn't submit correctly on Blackboard", etc.) will not be accepted as justifications for late submission for points. If you cannot complete the assignment on time, it is better to turn in partially completed work than nothing at all. **Important*:*** Students that do not have a passing grade (60% for undergraduates, 70% for graduates) in the lab portion of class will fail the entire course.

Exams will be a mix of multiple choice, true/false, fill in the blank, and free response. I **do not** provide review sheets for exams. The final exam will be cumulative in the sense that it builds on content from the first half of the course but will focus on material since the midterm exam. No tests will be handed out after the first person to finish has turned in their exam and left the room.

If extra credit opportunities arise throughout the course of the semester, they will be announced in class and appear in the Extra Credit Opportunities folder on Blackboard.

Each student will complete a course project. The course project requires you to make an original map product. The topic and type of map is up to you. You will be required to show at least two spatial or temporal variables in the map you produce. That is to say, it is not enough to do a simple choropleth map of one Census statistic. More specific information on the course project will be provided during the semester.

ELECTRONIC RESOURCES

You will need to be able to use a computer to participate in the course and complete the required work. This course requires notably computer file management skills and the ability to work within a computer environment without assistance. Many lab assignments will require several hours to complete, and you are encouraged to use the departmental computer lab (Exploratory 2102), which is available 24/7 (unless reserved). All students in GGS courses should automatically receive "swipe" access (using your Student ID) within the first two weeks of the course.

Students must use their GMU email account to receive important University information, including communications related to this class.

- If you are having problems with GGS Lab door access after the second week of classes, please e-mail GGS administrator Sam Cooke (scooke4@gmu.edu) with SWIPE ACCESS in the subject line of your email and the course to which you are enrolled in the email text along with a polite request for access.
- If you experience problems with the computers (e.g., software or hardware issues) in the GGS Student Computer Lab or in our classroom, please email College of Science IT (cosit@gmu.edu) for technical assistance.
- If you need a license key for a self-installed copy of ArcGIS, please e-mail Professor Leslie.
- I will not respond to messages sent from or send messages to a non-Mason email address regarding course elements.
- Please copy Dr. Leslie on any e-mail correspondence to outside parties if it is related to this course.

You will likely want a thumb drive or some other form of portable (or easily accessible) storage device/service. Many of the files we will use are very large. I strongly suggest using a cloud service such as dropbox.com. Please save frequently while working in the lab (lab2a, lab2b, lab2c, for example) and definitely keep a backup copy of your work. Saving your work to a local machine is NOT a reliable method. There are no second chances for

software or hardware glitches.

You will be required to obtain a high-quality spatial dataset for your final project.

The course will be taught with the help of Blackboard, accessed through https://mymasonportal.gmu.edu. Blackboard will be used for the distribution of lectures and assignments, as well as for the post-class engagements.

- Preview slides will be posted before class to provide an opportunity for context, full lectures are available after class.
- While unlimited submissions are permitted in Blackboard for assignments, only the most recent submission will be graded.
- Unless otherwise specified, assignment submissions should be PDF documents.

This class will teach the technical application elements in Adobe Illustrator, the dominant commercial product used in the industry.

- There are no student/trial/take-home licenses for this software. There are open-source (Inkscape) and commercial alternatives to this software. If you wish to obtain the software for your personal machine, such elements are outside the scope of course instruction.
- ArcGIS will be useful when managing and manipulating the spatial data for your final project. However, ArcGIS is not a suitable replacement for design-level software and should NOT be used for any submissions unless explicitly noted.

I am not technical support.

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).

While working on labs near other students is acceptable, creative efforts are to be individual to a student. 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.

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. It is my policy that all Honor Code referrals recommend a sanction of *at least* course failure. The official GMU policies are available from the Office of Academic Integrity: https://oai.gmu.edu/

DIVERSITY AND INCLUSION

I am committed to the accessibility of education of all students. 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. We welcome and value individuals and their differences including race, economic status, gender expression and identity, sex, sexual orientation, ethnicity, national origin, first language, religion, age, and disability.

An emphasis upon diversity and inclusion throughout the campus community is essential to achieve these goals.

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 a multitude of opinions, backgrounds and practices have the opportunity to be voiced, heard and respected. We encourage all members of the learning environment to engage with the material personally, but to also be open to exploring and learning from experiences different than their own. Individuals are asked not to speak for the experience of others, nor to ask others to account for an identity to which they may belong.

OFFICE OF DISABILITY SERVICES

I am committed to the accessibility of education of all students. 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 can only provide accommodations with 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 "Mandatory Reporter," 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).

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)

Week	Date	Lecture Topic	DUE
1	22-Jan	What is a Map?	
2	29-Jan	Map Design	Lab 1
3	5-Feb	Color	Lab 2
4	12-Feb	Choropleth Maps	Project Update 1
5	19-Feb	Proportional Symbol Maps	Lab 3
6	26-Feb	Classification	Lab 4
7	4-Mar	**Midterm Exam**	
	11-Mar	**Spring Break - No Class**	
8	18-Mar	Text	Project Update 2
9	25-Mar	Projections	Lab 5
10	1-Apr	Dot Density Maps	Lab 6
11	8-Apr	Isarithmic and Dasymmetric Maps	Lab 7
12	15-Apr	Sharing the Stage with Other Elements	Draft Projects
13	22-Apr	Draft Projects	Peer Review
14	29-Apr	Ethics, Future of Cartography	Final Projects
	6-May	**Final Exam**	