

GISC 491 Directed Study Capstone Syllabus Spring 2023

The GIS Certificate Capstone is intended to be the culmination of your undergraduate career in geospatial science. Some students fulfill the capstone through an Internship (499), while others do it as a Directed Study (491). In either case, as long as you work on your capstone with Dr. Gallagher or Dr. Bowen, the learning outcomes and the final products are the same.

Office Hours: Dr. Gallagher M&F 11-2 and TR 10:30-12. Dr. Bowen MWF 11-12 and T 10-12

Dr. Gallagher - 540-654-1493; Dr. Bowen - 540-654-1491

Learning Outcomes:

1. Gain practical experience in the application of GIS to a specific geographic problem/question/issue.
2. Be able to ask a geographic question, and develop an appropriate methodology for answering that question.
3. Write a report that explains to a non-GIS specialist the tools used to answer the geographic question.
4. Make a professional presentation, using slides, that demonstrates the methods and strategy employed to address the geographic issue.
5. Internship students will utilize their skills in a professional work place.

You need a project! Below, read about how capstone works for a directed study.

Your project might involve data or a method you started in a previous course, that you expand on; it might involve an idea you have, or a suggestion from a professor, an internship, or a different (previous) research project. **This project will address a geographic issue, question or hypothesis.** You *must* do spatial analysis!

For 3 credits, you should expect to work about 9 hours a week, so ~130 hours over the semester.

You will participate in several meetings throughout the semester to ensure that you are on the right track and know what to do.

You will write a capstone paper, in which you will explain your geographic question or issue, describe the process and methods used, as well as the results and their significance. Write for an educated but non-GIS-specialist audience. You should include illustrations, for example your work-flow, tables and maps.

You will make a public presentation, which will also include illustrations through a slide-show, and again should be aimed at a non-GIS-specialist audience. A detailed description of the paper and presentation are provided within the assignments and in Canvas Pages.

Evaluation:

- 10% Meetings (7)
- 15% Activities (question, description, critique)
- 25% Presentation with slides, 9-11 minutes (week 15)
- 50% Written report (Friday Dec 9, last day of classes)

Final grades will be given using the following grading scheme:

| Grading Scheme | | | |
|----------------|-------|-----------|-------|
| Percent | Grade | Percent | Grade |
| 93-100 % | A | 73-76.9 % | C |
| 90-92.9 % | A- | 70-72.9 % | C- |
| 87-89.9 % | B+ | 67-69.9 % | D+ |
| 83-86.9 % | B | 60-66.9 % | D |
| 80-82.9 % | B- | <59.9% | F |
| 77-79.9 % | C+ | | |

Mid-semester deficiency grades will be given for a grade below 70% based on graded material at that time.

The Capstone Project via Directed Study

For the written capstone paper, you will describe the process and methods used, as well as the results and their significance, *aimed at an educated but non-GIS-specialist audience*. You should include illustrations from each stage of your work, for example your work-flow, tables and maps. You'll make a public presentation, which will also include illustrations and again should be aimed at a non-GIS-specialist audience. A detailed description of the paper and presentation are below. You need to be able to explain why you are doing this project, and how you went about it, as well as how it worked.

What constitutes a project? Something with a specific purpose (a geographic question, a geographic hypothesis), that has a beginning, middle and end. It needs to include some spatial analysis or procedure (location analysis, image classification, program written to complete a task, routing, spatial data analytics...). The project should be a substantial undertaking. A three-credit course should require approximately 9 hours per week in a regular semester, roughly 130 hours in total.

Policies and Resources:

1. **Covid-19 Statement:** As we begin spring semester of 2023, the number of cases of Covid-19 in our region is high, and other respiratory viruses are raging! This class will follow all UMW policies as they unfold. Above all, please pay attention to your own health. Do not go to any class if you are sick: email or phone your professor to advise them that you will be out. In the case of this class, please contact me if you are not well and cannot attend class. I do not want a synchronous online version of the class, but I can help you keep up and catch up after the fact. Of course, if I am sick, I will let you know!
2. **UMW's Honor Code:** As in every class and activity at Mary Washington, the Honor Code will be followed in this class. While I encourage each of you to offer help to your colleagues to solve problems and to seek such help as you study and work on your assignments, remember that any items you turn in to me individually must be your own work. Please pledge all assignments as you turn

them in, e.g. "I did not give or receive unauthorized help on this assignment - your signature". Please do not discuss tests or quizzes with other students. Students should NEVER have identical sentences; beware of assuming that your peer 'knows' the answers! When writing your lab reports, include citations: anything beyond general knowledge should be cited.

3. **Office of Disability Resources:** The Office of Disability Resources has been designated by the university as the primary office to guide, counsel, and assist students with disabilities. If you receive services through the Office of Disability Resources and require accommodations for this class, please provide me a copy of your accommodation letter via email or during a meeting. I encourage you to follow-up with me about your accommodations and needs within this class. I will hold any information you share with me in the strictest confidence unless you give me permission to do otherwise.

If you have not made contact with the Office of Disability Resources and have reasonable accommodation needs, their office is located in Seacobeck 005, phone number is (540) 654-1266 and email is odr@umw.edu. The office will require appropriate documentation of disability.

4. **Title IX:** University of Mary Washington faculty are committed to supporting students and upholding the University's *Policy on Sexual and Gender Based Harassment and Other Forms of Interpersonal Violence*. Under Title IX and this Policy, discrimination based upon sex or gender is prohibited. If you experience an incident of sex or gender based discrimination, we encourage you to report it. ***While you may talk to me, understand that as a "Responsible Employee" of the University, I MUST report to UMW's Title IX Coordinator what you share.*** If you wish to speak to someone confidentially, please contact the below confidential resources. They can connect you with support services and help you explore your options. You may also seek assistance from UMW's Title IX Coordinator. Please visit <http://diversity.umw.edu/title-ix/Links> to an external site. to view UMW's *Policy on Sexual and Gender Based Harassment and Other Forms of Interpersonal Violence* and to find further information on support and resources.

Title IX Coordinator: Stefanie Lucas-Waverly, M.S.

Fairfax House
1301 College Ave.
Fredericksburg, VA 22401
Phone: 540-654-5656
E-mail: slucaswa@umw.edu

Website: <http://diversity.umw.edu/title-ix/Links> to an external site.

Confidential Resources

On-Campus

Talley Center for Counseling Services: Lee Hall 106, 540-654-1053
Student Health Center: Lee Hall 112, 540-654-1040

Off-Campus

Empowerhouse: 24-hr hotline: 540-373-9373
Rappahannock Council Against Sexual Assault (RCASA): 24-hr hotline:
540-371-1666

5. **Recording Policy:** To ensure the free and open discussion of ideas, ***students may not record classroom lectures, discussions, and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student's own private use.*** Students who wish to record lectures or class activities for study purposes must inform the faculty member first. Students with approved accommodations from the Office of Disability Resources permitting the recording of class meetings must present the accommodation letter to the instructor in advance of any recording being done. On any days when classes will be recorded, the instructor will notify all students in advance. Distribution or sale of class recordings is prohibited without the written permission of the instructor and other students who are recorded. Distribution without permission is a violation of educational privacy law. This policy is consistent with UMW's *Policy on Recording Class and Distribution of Course Materials*.