GES 780 Syllabus – Fall 2024
GIS Project Capstone

Instructor:
Prof. Cheryl Knott, MA
cherylk1@umbc.edu

Time and Location:
Mondays 6:00-8:30pm
Sondheim 001 (Cartography Lab) – when meeting in person
https://umbc.webex.com/umbc/j.php?MTID=m147092f9b89d343ac8d58064b232f582
Password: capstone

Format:
We will meet in person on Weeks 3, 8, and 17 as a full cohort, otherwise we will meet virtually every other week and one-on-one as needed on WebEx throughout the semester. As you work on your project throughout the semester, you will need to schedule a bi-weekly recurring meeting with the instructor and your project partner(s).

Office Hours:
By virtual appointment on WebEx. Please email/message me at least 24 hours in advance during the week to schedule a mutually agreed upon time to connect.

Class Discord:
https://discord.gg/p9afPXn8jx
Feel free to use this space for discussion, to ask me questions, and share resources with your classmates.

Course Description:
This capstone course demonstrates a student's ability to apply the knowledge and skills attained during their tenure in the GIS program. This is a semi-independent course that has students working with actual clients and undergoing the entire process of developing a real-world solution to meet that client's needs. These solutions can be in the form of applied research or technological development. The project with be done in conjunction with an industry, government, or academic partner who will be responsible for providing the requirements, data, and system access needed to develop a functional and stable GIS solution in their production environment.

Students will produce documentation that demonstrates the design of the GIS, the method for its construction, and instructions for its operation. Guidance from the instructor will interplay with feedback from the client to ensure the student's success. As an M.P.S. student, the resulting project will also make a substantial contribution to the student's professional work, leading to a formal public presentation at an appropriate professional conference or submission of a written manuscript for publication in advisor-approved professional publication.

Grading Overview:
Your final grade will be determined on a weighted percentage basis:

94 to 100 = A	90 to 93 = A-	87 to 89 = B+	84 to 86 = B	80 to 83 = B-
77 to 79 = C+	74 to 76 = C	70 to 73 = C-	69 to 0 = F	

The completion of your **Capstone** is paramount to your success in GES 780. Your capstone project deliverable will be worth 50% of your final grade. Evaluation of your capstone performance will be measured on (1) depth and complexity of the project, (2) documentation of the methods used in developing and building the project, (3) knowledge, skills, and technology or research based employed to develop the project, (4) quality of the project as it relates to acceptance by the client.

At the conclusion of the semester, you will make a 15-to-20-minute oral presentation that covers the areas mentioned above and demonstrates the final GIS project. Your **Final Project Presentation** will be worth 20% of your grade and will be delivered to the instructor, classmates, host organizations, and other GIS faculty.

I will coordinate with your host organization on a **Mid-Point Evaluation**. This is a four-question assessment that will be posed to your host to evaluate your engagement with the host organization, in relationship to your presence, engagement, adherence to protocol, and overall progress. The Mid-Point Evaluation is worth 15% of your grade.

Lastly, your **Class Attendance and Engagement** will be worth 15% of your final grade.

Proposed Schedule:

Part 1 (Weeks 1-3): Developing a Capstone Project *Activities in this part of the course involve:* ▪ Introduction to the course and its format ▪ Review of project management and leadership principles ▪ Meeting the client and becoming familiar with the project to be developed ▪ Conduct a literature or tech review of relevant research or technology pertaining to the proposed need, which includes the identification of (1) significant literature, (2) major issues, (3) approaches used, (4) gaps in knowledge, (5) review of technologies, (6) and any other topics pertaining to the client needs	
Week 1 August 28, 2024	Connect with instructor and project partners virtually for introductions.
Week 2 September 2, 2024	Labor Day – No Class. Connect individually with instructor/host organizations.
Week 3 September 9, 2024	Meet in person. Discussion on project management and student share-out about projects.
Part 2 (Weeks 4-8): Begin Implementation of the Research or Technology Solution *Activities in this part of the course involve:* ▪ Identification of research or technology development method(s), which includes the documentation of methods employed ▪ Begin working on and making regular progress towards the development of the research or tech solution ▪ Continued checking in with the instructor and host organization, which includes discussing progress, demonstrating current state of product, and adjusting schedules as needed Identifying anticipated research or technology	
Week 4 September 16, 2024	Virtual meeting. Student share-out about projects.
Week 5 September 23, 2024	Virtual meeting. Student share-out about projects.
Week 6 September 30, 2024	No meeting. Project work and development.
Week 7 October 7, 2024	Virtual meeting. Student share-out about projects.
Week 8 October 14, 2024	Meet in person. Instructor completing your Midpoint Evaluation with your host organization.
Part 3 (Weeks 9-15): Continue Developing Solution and Prepare for Product Delivery *Activities in this part of the course involve:* ▪ Begin development of the final research or technology development project ▪ Begin to develop the final PowerPoint presentation	
Week 9 October 21, 2024	No meeting. Project work and development.

Week 10 October 28, 2024	Virtual meeting. Student share-out about projects.
Week 11 November 4, 2024	No meeting. Project work and development.
Week 12 November 11, 2024	Virtual meeting. Student share-out about projects.
Week 13 November 18, 2024	No meeting. Project work and development.
Week 14 November 25, 2024	Virtual meeting. Student share-out about projects.
Part 4: Project Wrap-up *Activities in this part of the course involve:* ▪ Delivery of the final research or technology solution to the instructor for review ▪ Complete the implementation of research or technology solution for the client ▪ Presenting final research or technology solution to the class, department faculty, host organizations, and other relevant audiences.	
Week 15 December 2, 2024	No meeting. Project work and development.
Week 16 December 9, 2024	Virtual meeting. Student share-out about projects.
Week 17 December 16, 2024	In-person gathering for end-of the semester project presentations. Dinner will be provided.

Note that the above class and work schedule may vary depending what is agreed upon between the instructor, students, and clients/host organizations. In general, each in-person or virtual meeting will include the following activities:

- Progress since the previous meeting
- Activity plans for in between the next meeting
- Strategize on issues or opportunities that have arisen
- Development of the final deliverable and portfolio.

Disclaimer:

I will make every effort to ensure that this syllabus and all other course materials shared are up-to-date and accurate to course plans, however policies, deadlines, and assignments may change unexpectedly, and I will keep you updated and informed in a timely fashion if modifications may need to occur.

Writing Quality Expectations:

This course is part of a curriculum that awards a Masters in Professional Studies (M.P.S.) degree. Because the course requires students to describe –in writing– their interpretations of statistical results it is expected that students will generate products that meet the professional standards of such a program. One of the main facets of an M.P.S. is to gain an ability to clearly communicate analytical results to audiences of all types. All assignment and project products for this course will be evaluated on the student's ability to write a high-quality report of findings. Exercises and projects are designed to train students on how to professionally report analytical results in documents or write software code that others will read or use. This is an important facet in demonstrating the value of geography and spatial analysis over other forms of analysis. All products, written or coded, must be thoroughly defined and polished. Poorly written assignments may be downgraded one letter from achieved grade.

The Academic Success Center offers free writing assistance through our Writing Center, which is located on the first floor of the library. We also offer online and asynchronous tutoring. Writing tutors are students like you who receive ongoing training to stay up to date on the best tutoring techniques. To make an appointment, please visit

http://academicsuccess.umbc.edu/writing-center. The GSA does have a graduate writing advisor, as well: https://gsa.umbc.edu/writing-advisor/

Academic Integrity:
By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit these acts are all forms of academic dishonesty, and they are wrong.

Copying or using another's work in written or oral form –partial or complete– without giving credit to the other person is a serious academic offense and is taken very seriously in this class, by the Department and by the University of Maryland, Baltimore County. UMBC specifically defines plagiarism as anyone who:

> *"…knowingly, or by carelessness or negligence, representing as one's own in any academic exercise the words, ideas, works of art or computer-generated information and images of someone else."*

Any student who plagiarizes will be referred to the Program Directors and will be subject to the policies of the university. In general, the consequences of plagiarism include failing an assignment, receiving a lower course grade, and even failing a course.

Examples of plagiarism include:

- Submit someone else's work as your own.
- Buy a paper from a paper-mill, website, or other source.
- Copy sentences, phrases, paragraphs, or ideas from someone else's work, published or unpublished, without giving the original author credit.
- Replace select words from a passage without giving the original author credit. ·
- Copy any type of graphics, tables, graphs, maps, or charts from someone else's work without giving the original author credit.
- Piece together phrases, ideas, and sentences from a variety of sources to write an essay.
- Build on someone else's idea or phrase without giving the original author credit.
- Using another person's maps as your own or using another's map as a foundation for making your own.
- Use Artificial Intelligence (AI) without reviewing and refining the output to ensure that is it correct and does not use another author's work that you are claiming to have produced.

Details about avoiding plagiarism, examples, and disciplinary policies should be reviewed to gain a clear understand prior to working on an assignment or exam. Resources are also available on campus to help students needing academic support on this subject at the Center for Academic Success.

Mac Usage:
There are no versions of ArcGIS for Mac computers. As such, students using Macs as their personal machine need to plan to complete the assignments. There are three options for using ArcGIS on a Mac, which can be found here: Install ArcGIS on a Mac. There is also the option of using a virtual machine to run ArcGIS on a server from the Mac. Please contact Charlie Kaylor at ckaylor@umbc.edu at for help in getting set up with the Mac.

QGIS can be used as an alternate GIS in this class for mapping and other geo-processing tasks. However, the assignments must be completed according to the requirements for the final map products that are an output of the GIS. This means, if an assignment comes up short in meeting the requirements or objectives because of a limitation in QGIS, then the complete points for that assignment cannot be awarded because the decision to use an alternate software than what is used in the class rests on the student's choice. The loss of points can be minor or significant depending on the assignment.

Inclement Weather:
In case of inclement weather, in-person classes will be held if the university is open; please notify the instructor if you commute from out of the area and have trouble coming to campus. If a weather delay affects university operations, then class will be cancelled if it is scheduled before the university resumes operations.

Religious Observances:
UMBC Policy provides that students should not be penalized because of observances of their religious beliefs, students shall be given an opportunity, whenever feasible, and to make up within a reasonable time any academic assignment that is missed due to individual participation in religious observances. It is the responsibility of the student to inform the instructor of any intended absences for religious observances in advance, and as early as possible. For questions, please contact the Office of Equity and Inclusion.

Hate, Bias, Discrimination, and Harassment:
UMBC values safety, cultural and ethnic diversity, social responsibility, lifelong learning, equity, and civic engagement. Consistent with these principles, UMBC Policy prohibits discrimination and harassment in its educational programs and activities or with respect to employment terms and conditions based on race, creed, color, religion, sex, gender, pregnancy, ancestry, age, gender identity or expression, national origin, veterans status, marital status, sexual orientation, physical or mental disability, or genetic information.

Students (and faculty and staff) who experience discrimination, harassment, hate or bias or who have such matters reported to them should use the online reporting form to report discrimination, hate or bias incidents; reporting may be *anonymous*. Any student who is impacted by sexual harassment, gender-based harassment, sexual assault, sexual coercion, relationship violence, domestic violence, sexual exploitation, sexual intimidation, sex, gender-based stalking or retaliation, or gender or pregnancy discrimination is encouraged to seek support and resources.

You can access support and resources even if you do not want to take any further action. You will not be forced to file a formal complaint or police report. Please be aware that the University may act on its own if essential to protect the safety of the community. As an instructor, I am considered a *Responsible Employee*, per UMBC's Policy on Prohibited Sexual Misconduct, Interpersonal Violence, and Other Related Misconduct I am required to report disclosures of possible violations of the Policy to the Title IX Coordinator, even if the experience occurred before you attended UMBC.

While I want you to be able to share information related to your life experiences through discussion and written work, I also want you to understand that I must report Sexual Misconduct to the Title IX Coordinator so that the University can inform you of your rights, resources and support. *If you need to speak with someone in confidence*, who does not have an obligation to report to the Title IX Coordinator, about an incident, UMBC has the following Confidential Resources available to support you: The Counseling Center: 410-455-2742; University Health Services: 410-455-2542; For after-hours emergency consultation, call 301-314-7651.Other on-campus supports and resources include The Women's Center (for students of all genders): 410-455-2714; Title IX Coordinator, 410- 455-1250.

Disabilities:
The Americans with Disabilities Act (ADA) is a federal antidiscrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. Moreover, the UMBC requires students register with the Office of Student Disability Services and I will work with you and the SDS to ensure your success.