



Department of Geography and Geoinformation Science

4400 University Drive, MS 6C3, Fairfax, Virginia 22030
Phone: 703-993-1210, Fax: 703-993-9299
Email: ggs@gmu.edu Web: ggs.gmu.edu

GGs 685
Capstone Course in Geoinformatics
Spring 2015

1. General Information

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| Professor: | Dr. Anthony Stefanidis GMU Fairfax Campus Exploratory Hall, Room 2402 Tel: (703) 993-9237 Email: astefani@gmu.edu Office Hours: By appointment |
| Class Meeting: | Exploratory Hall, Room 2310 |
| Schedule: | Wednesdays 7:20pm to 10:00pm. |
| Course website: | http://ggs685.pbworks.com/ |
| Credits: | 3 |
| Prerequisites: | 12 credits in the geospatial intelligence certificate program or permission of program coordinator. |

2. Course Objectives

The capstone project aims to provide students an opportunity to integrate and apply core knowledge and skill components in Geoinformatics that were acquired during the program in a complex real-world project driven setting. The problems we will address in this course will be related to the general theme of Geo-Intelligence, and will therefore include extensive use of various geospatial data sources and analysis tools. In this environment students will be required to define possible scenarios, identify key challenges, explore possible solutions and deliver an effective solution. Given its nature, a capstone project often goes beyond a single discipline and require the application of varied disciplines to the solution of a single large-scale problem. In addition, a capstone project may require analysis at different scales, from local to regional or national. In light of this, the particular goals of the course are to:

- A. Allow students to implement and demonstrate their core skill set in Geoinformatics.
- B. Develop integrative multi-disciplinary problem solving skills.
- C. Promote critical thinking, including the ability to critically examine existing works and established methods, and develop innovative approaches.
- D. Enhance and develop rigorous writing and presentation skills.
- E. Enhance students' ability to work and manage a project collaboratively.

3. Course schedule

The course (3 hours per week) will be taught as a combination of lectures, topic/problem oriented discussion, and tutorials based on independent reading and class discussion.

4. Textbooks

No textbook is required. Handouts distributed in the class will contain all essential material. Additional readings (selected readings from research journals, technical reports, and other sources) will be distributed via the course website.

5. Course outline (tentative)

We follow a problem-driven approach, and proceed in steps by identifying issues, solutions and their integrative analysis.

6. Attendance

You are required to attend all class meetings. Your active participation in the class is essential to the success of this course. Attendance may be verified during each session.

7. Grades

The grade will reflect the student performance in the classroom and the assignments. At the end of the term all the marks will be totaled as a weighted average according to the following weights:

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| Intermediate assignments | 30% |
| Class participation | 30% |
| Final report and presentation | 40% |

Final grades at the end of the course will be assigned using a combination of absolute achievements and relative standing in the class.

8. Exams

This course does not include a midterm or a final exam.

9. Assignments:

The course will include a number of intermediate assignments that build on knowledge acquired in the certificate program so far and lead towards a final report and presentation. The time allocated for every assignment will be announced in class.

All assignments are mandatory. You will be working in groups, but each person within a group is expected and required to contribute equally towards that group's workload. Assignment work is typically delivered through a presentation and discussion.

10. Course website:

The course has a pbworks website: <http://ggs685.pbworks.com/> . This website will provide you a single portal through which you may obtain lecture notes, retrieve assignment data and, review links to additional materials, and receive special announcements. You are required to visit the course website regularly to download course materials and get important updates. Please notify the instructor if you encounter any problems accessing this website.

11. Students with special needs:

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. All academic accommodations must be arranged through the ODS - <http://ods.gmu.edu>. Please do not hesitate to contact me regarding your special needs if you encounter any problems.

12. Academic integrity:

George Mason University is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the GMU honor code (online at academicintegrity.gmu.edu).

13. General guidelines for assignment preparation and submission

- a. Grades of assignments will be based on:
 - **Academic merit** of your answers.
 - **Conciseness** and **completeness** of your answers. Please write to the point and explicitly address the topic. Avoid using unnecessary graphics (figures, tables, graphs etc.) unless they serve a specific purpose. Make sure to use captions and to refer to (or explain) the graphics you include in your written answer.
 - **Organization** and **presentation**. Remember that your assignment report is a reflection of your thinking and learning process. Please organize your report in a logical fashion so that your answers could be easily identified.
- b. Your assignment is a professional document, and should therefore be formatted and constructed accordingly. All assignments are to be typed. Hand-written assignments will not be accepted.

14. Other useful campus resources:

- a. The writing center: A114 Robinson Hall; (703) 993-1200; <http://writingcenter.gmu.edu>
- b. The University libraries "ask a librarian"; <http://library.gmu.edu/mudge/IM/IMRef.html>
- c. Counseling and Psychological Services (CAPS): (703) 993-2380; <http://caps.gmu.edu>