# Course Change Request

## New Course Proposal

Date Submitted: 12/19/18 9:40 am

### Viewing: **GGS 485 : Capstone Course in Geoinformation Science**

Last edit: 12/19/18 9:40 am

Changes proposed by: nburtch

**Are you completing this form on someone else's behalf?**
No

**Effective Term:** Fall 2019

**Subject Code:** GGS - Geography & Geoinformation Science  **Course Number:** 485

**Bundled Courses:**

**Is this course replacing another course?** No

**Equivalent Courses:**

**Catalog Title:** Capstone Course in Geoinformation Science

**Banner Title:** Capstone GIScience

**Will section titles vary by semester?** No

**Credits:** 3

**Schedule Type:** Lecture

**Hours of Lecture or Seminar per week:** 3

**Repeatable:** May be only taken once for credit, limited to 3 attempts (N3)  **Max Allowable Credits:** 9

**Default Grade Mode:** Undergraduate Regular

**Recommended Prerequisite(s):** GGS300 or GGS311 or permission of instructor.

**Recommended Corequisite(s):**

**Required Prerequisite(s) / Corequisite(s) (Updates only):**

### In Workflow

1. **GGS Chair**
2. **SC Curriculum Committee**
3. SC Associate Dean
4. Assoc Provost-Undergraduate
5. Registrar-Courses
6. Banner

### Approval Path

1. 11/28/17 9:54 pm Sven Fuhrmann (sfuhrman): Approved for GGS Chair
2. 11/29/17 1:19 pm Jennifer Bazaz Gettys (jbazaz): Rollback to Initiator
3. 11/29/17 2:48 pm Sven Fuhrmann (sfuhrman): Approved for GGS Chair
4. 12/05/17 1:33 pm Gregory Craft (gcraft): Approved for SC Curriculum Committee
5. 12/05/17 2:24 pm Jennifer Bazaz Gettys (jbazaz): Approved for SC Associate Dean
6. 02/15/18 12:21 pm Krista Shires (kshires): Rollback to SC Associate Dean for Assoc Provost-Undergraduate
7. 02/28/18 4:54 pm Padhu Seshaiyer (pseshaiy): Rollback to Initiator
8. 12/19/18 9:41 am Nathan Burtch (nburtch): Approved for GGS Chair

**Registrar's Office Use Only - Required Prerequisite(s)/Corequisite(s):**

| And/Or | ( | Course/Test Code | Min Grade/Score | Academic Level | ) | Concurrency? |
|--------|---|------------------|-----------------|----------------|---|--------------|

**Registration Restrictions (Updates only):**

**Registrar's Office Use Only - Registration Restrictions:**

**Field(s) of Study:**

**Class(es):**

**Level(s):**

**Degree(s):**

**School(s):**

| | |
|---|---|
| **Catalog Description:** | This course is intended to provide a capstone experience for undergraduate students by synthesizing knowledge and experience that they acquired in earlier coursework to address a complex geospatial problems. The course requires analytical, collaborative, and communication skills. |
| **Justification:** | The GGS undergraduate programs currently do not have a capstone component, which is becoming increasingly more important to prepare our students for their careers. |
| **Does this course cover material which crosses into another department?** | No |

**Learning Outcomes:**

Apply one or more theories or concepts from courses within their major to an analysis of a particular issue relevant to the major.

Identify an idea, method, or concept from a discipline outside their major field of study and be able to apply it within the context of their major field of study.

Examine how their previous coursework has contributed to their intellectual development and/or their post-graduation plans.

Improve their writing and communication skills.

Enhance students' ability to work and manage a project collaboratively.

| | |
|---|---|
| **Attach Syllabus** | GGS485_syllabus.pdf |
| **Additional Attachments** | |
| **Staffing:** | Several GGS faculty members could teach the course, e.g. Dieter Pfoser, Andreas Zuefle, Arie Croitoru. |
| **Relationship to Existing Programs:** | This capstone course will enhance the core skill set in the BS and BA undergraduate degrees programs. |
| **Relationship to Existing Courses:** | Undergraduate version of GGS 685 Capstone Course in Geoinformatics |

| | |
|---|---|
| **Additional Comments:** | N3 Update |
| **Reviewer Comments** | **Jennifer Bazaz Gettys (jbazaz) (11/29/17 1:19 pm):** Rollback: Hi Dr. Pfoser: On the syllabus you have the prereqs as: "Graduate Students: GGS 300 or 301 or 311." 1. Perhaps you mean "undergraduate"? 2. The CIM form only lists GGS 300 or 311- please correct the syllabus and/or CIM form so they match to avoid confusion. Thanks! <br> **Krista Shires (kshires) (02/15/18 12:21 pm):** Rollback: Rollback requested by council-Tim Leslie asked for clarification as to how this differs from GIS 415 Capstone. Justification is requested before this can be officially approved. Thank you <br> **Padhu Seshaiyer (pseshaiy) (02/28/18 4:54 pm):** Rollback: Hi Dieter, Rolling this back to you. Please see comments from Tim Leslie for clarification. |

Key: 15745

**Department of Geography and Geoinformation Science**

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# GGS 485
## Capstone Course in Geoinformation Science

1. **General Information**

   | | |
   |---|---|
   | **Instructor**: | Dr. Dieter Pfoser (tbd) |
   | **Where**: | tbd |
   | **When**: | Fall 2018 |
   | **Course website**: | Blackboard |
   | **Credits**: | 3.0 |

2. **Course Objectives**

   The capstone project aims to provide students an opportunity to integrate and apply core knowledge and skill components in Geography and Geoinformation Science that were acquired during the program in a complex real-world project driven setting. The problems we will address in this course will include extensive use of various geospatial data sources and analysis methods and 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:
   - Allow students to implement and demonstrate their core skill set in their major.
   - Develop integrative multi-disciplinary problem-solving skills.
   - Promote critical thinking, including the ability to critically examine existing works and established methods, and develop innovative approaches.
   - Enhance and develop rigorous writing and presentation skills.
   - Enhance students' ability to work and manage a project collaboratively.

3. **Course schedule**

   The course (3 hours per week) will be taught as a semester-long class project, combining lectures, topic/problem oriented discussion, and directed reading assignments with corresponding 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**

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

| Mod. # | Topic |
|---|---|
| 1 | Course Introduction |
| 2 | Formulating research question |
| 3 | Case study examples |
| 4 | Library session |
| 5 | Discussion and critique of Expanded Research Statements |
| 6 | Critique of literature reviews |
| 7 | Critique of methodology |
| 8 | Critique of methodology |
| 9 | Critique of Case Studies |
| 10 | Critique of Case Studies (2) |
| 11 | Discussion and critique of Rough Drafts |
| 12 | Discussion and critique of Rough Drafts |
| 13 | In class Presentations |
| 14 | In class Presentations |

6. **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:

- 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.

7. **Exams**

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

8. **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.

9. **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.

10. **Course Web site**

The course has a Blackboard website. 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. Please notify ITU (and, if necessary, the instructor) if you encounter any problems accessing this website.

11. **Electronic communication:**

All course related email correspondence, including submission of assignments, should be made through the course Blackboard website. Please DO NOT send emails to the instructors' @gmu.edu address.

12. **Student Expectations:**

- **Academic Integrity:** Students must be responsible for their own work, and students and faculty must take on the responsibility of dealing explicitly with violations. The tenet must be a foundation of our university culture. [See http://academicintegrity.gmu.edu/distance].
- **Honor Code:** Students must adhere to the guidelines of the George Mason University Honor Code [See http://oai.gmu.edu/the-mason-honor-code/].
- **MasonLive/Email (GMU Email):** Students are responsible for the content of university communications sent to their George Mason University email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students solely through their Mason email account. [See https://masonlivelogin.gmu.edu].
- **Patriot Pass:** Once you sign up for your Patriot Pass, your passwords will be synchronized, and you will use your Patriot Pass username and password to log in to the following systems: Blackboard, University Libraries, MasonLive, myMason, Patriot Web, Virtual Computing Lab, and WEMS. [See https://password.gmu.edu/index.jsp].
- **University Policies:** Students must follow the university policies. [See http://universitypolicy.gmu.edu].Responsible Use of Computing - Students must follow the university policy for Responsible Use of Computing. [See http://universitypolicy.gmu.edu/policies/responsible-use-of-computing ].
- **University Calendar:** Details regarding the current Academic Calendar. [See http://registrar.gmu.edu/calendars/index.html].
- **Students with Disabilities:** Students with disabilities who seek accommodations in a course must be registered with the George Mason University Office of Disability Services (ODS) and inform their instructor, in writing, at the beginning of the semester [See http://ods.gmu.edu].
- Students are expected to follow courteous Internet etiquette at all times; see http://www.albion.com/netiquette/corerules.html for more information regarding these expectations.

13. **Student Services:**
    - **University Libraries:** University Libraries provides resources for distance students. [See http://library.gmu.edu/distance and http://infoguides.gmu.edu/distance_students].
    - **Writing Center:** The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing. [See http://writingcenter.gmu.edu]. You can now sign up for an Online Writing Lab (OWL) session just like you sign up for a face-to-face session in the Writing Center, which means YOU set the date and time of the appointment! Learn more about the Online Writing Lab (OWL).
    - **Counseling and Psychological Services:** The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance [See http://caps.gmu.edu].
    - **Family Educational Rights and Privacy Act (FERPA):** The Family Educational Rights and Privacy Act of 1974 (FERPA), also known as the "Buckley Amendment," is a federal law that gives protection to student educational records and provides students with certain rights. [See http://registrar.gmu.edu/privacy].

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**Disclaimer**: Any typographical errors in this Course Outline are subject to change and will be announced in class. The date of the final examination is set by the Registrar and takes precedence over the final examination date reported by the instructor.

**Note**: Recording is permitted only with the prior written consent of the professor or if recording is part of an approved accommodation plan.