

Geographic Information Systems/ Remote Sensing Capstone Course (GEOG 5131/5161/6161)

Spring 2019, Units: 3

Designation: Community Engaged Learning

Prerequisites: Geog 1180 or programming equivalent, Geog 5150

Lectures:

Time: Tuesday, 2:00 pm – 5:00 pm

Location: GC 2675

Instructors:

Lead Instructor:

Name: Phoebe B. McNeally, Ph.D.

E-mail: phoebe.mcneally@geog.utah.edu

Office: GC 4846

Office Hours: Very flexible by appointment

Phone: 801-585-9133

Co-Instructor: (Available after Spring break)

Name: Jared Butler

E-mail: jared.butler@geog.utah.edu

Office: GC 4050 (DIGIT Lab)

Office Hours: Very flexible by appointment

Phone: 801-581-3612

Course description/overview:

The culmination of GIS/Remote Sensing classroom learning is the application to industry problems. This course provides students with the opportunity to apply their GIS/Remote Sensing skills and knowledge acquired in previous GIS/Remote Sensing courses to real-world GIS/Remote Sensing projects in the community. Students, working in small teams (MSGIS students will work individually), will be provided locally sponsored GIS/Remote Sensing projects which will take them through the GIS/Remote Sensing project life cycle from conception to completion. The student teams will be responsible for the development, management and delivery of the project culminating in a presentation (oral and written) to the community GIS/Remote Sensing “client” as well as a poster describing the project. Students will interface directly with a local area GIS/Remote Sensing professional throughout the project.

Projects generally progress through the following phases:

1. Project definition and background (Statement of Work)
2. Data acquisition and preparation
3. Data exploration
4. Data analysis /modeling
5. Project completion and recommendations

Each student project team is supervised by the instructor, client and additional faculty and professional mentors will provide feedback on oral presentations and posters.

Course learning outcomes:

1. Provide an opportunity to synthesize previous GIS/Remote Sensing learning in a real-world project while providing service to the community (i.e. Community Engaged Learning)
2. Provide practical hands-on experience solving and managing a GIS/Remote Sensing project
3. Develop professional, portfolio quality GIS/Remote Sensing skills
4. Develop skills in oral presentations and professional report writing
5. Provide real-world professional GIS/Remote Sensing experience working with clients

Course Events:

During the course, the following events will occur:

- a. In-class lectures and discussions.
- b. Visits to the sponsoring GIS/Remote Sensing organization by the student team for client meeting, project information, data collection and other purposes.
- c. Statement of Work descriptions consisting of an in-class team presentation and a written Statement of Work contract.
- d. Progress meetings, reports, and team evaluations submitted to faculty mentor as well as oral presentations to the class.
- e. A final report consisting of an in-class oral presentation and a written final report presented to the sponsoring organization after approval by the faculty mentor.
- f. A final map/poster describing the project to be submitted to the Utah Geographic Information Council annual conference student competition.
- g. MSGIS students will work individually on his/her project and Geog 6161 students will be graded separately from the Geog 5131/5161 students. *All Geog 6161 students (MSGIS and Graduate GIS Certificate) are required to have a scripting component in their project that demonstrates their ability to script and automate processes.*

Grading:

Statement of Work written contract: 10% (5% first draft, 5% final draft)

Statement of Work presentation: 10%

Progress reports and presentations: 15% (reports 5%, presentations 10%)

Final report: 20% (draft 5%, final 15%)

Final presentation: 20% (run through 5%, final 15%)

Final map/Poster: 15% (draft 5%, final 10%)

Participation/Professionalism/Team evaluations/other class assignments: 10%

Grade Assignment:

93 – 100% = A

90 – 92% = A-

87 – 89% = B+

83 – 86% = B

80 – 82% = B-

77 – 79 % = C+

73 – 76% = C

70 – 72% = C-

67 – 69% = D+

63 – 66% = D

60 – 62% = D-

> 60% = E

Course policies and general information:

1. Community Engaged Learning is the engagement of students and community partners in a mutually beneficial partnership where knowledge and resources are exchanged (Carnegie Foundation).
2. CANVAS will be used and it is the student's responsibility to check CANVAS regularly.
3. All assignments need to be typed and turned in at the beginning of the class. In the case of electronic submittals, assignments must be received prior to the stated deadline (date and time). Late assignments will not be accepted.
4. The University of Utah's Writing Center (<http://writingcenter.utah.edu/>) is a good free resource on campus to assist with improving writing skills.
5. Peer writing reviews is also a good resource to improve writing skills.
6. Class attendance is required and students need to participate in discussions and project presentations. If you are unable to attend class please notify the instructor by email or phone prior to class.
7. Mobile phones of any type are not to be used in any manner during class or meetings with clients.
8. Students should refrain from using laptops when watching oral presentations.
9. Due to the nature of this course, students are expected to work a minimum of 9 hours a week outside of class.
10. Students will not be allowed to add the class after January 8th, 2019.
11. An "incomplete" will be given only in extreme cases when conditions beyond the student's control required an extended period of absence.
12. Individual extra credit will NOT be assigned.
13. The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services (CDS), 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification to the Center for Disability Services.
14. Academic misconduct will not be tolerated. Penalties may include failure of an assignment, the entire course, and/or the filing of formal charges with appropriate university authorities. Academic misconduct" includes, but is not limited to, cheating, misrepresenting one's work, inappropriately collaborating, plagiarism, and fabrication or falsification of information, as defined further below. It also includes facilitating academic misconduct by intentionally helping or attempting to help another to commit an act of academic misconduct.
 - "Cheating" involves the unauthorized possession or use of information, materials, notes, study aids, or other devices in any academic exercise, or the unauthorized communication with another person during such an exercise. Common examples of cheating include, but are not limited to, copying from another student's examination, submitting work for an in-class exam that has been prepared in advance, violating rules governing the administration of exams, having another person take an exam, altering one's work after the work has been returned and before resubmitting it, or violating any rules relating to academic conduct of a course or program.
 - Misrepresenting one's work includes, but is not limited to, representing material prepared by another as one's own work, or submitting the same work in more than one course without prior permission of both faculty members.
 - "Plagiarism" means the intentional unacknowledged use or incorporation of any other person's work in, or as a basis for, one's own work offered for academic consideration or

credit or for public presentation. Plagiarism includes, but is not limited to, representing as one's own, without attribution, any other individual's words, phrasing, ideas, sequence of ideas, information or any other mode or content of expression.

- “Fabrication” or “falsification” includes reporting experiments or measurements or statistical analyses never performed; manipulating or altering data or other manifestations of research to achieve a desired result; falsifying or misrepresenting background information, credentials or other academically relevant information; or selective reporting, including the deliberate suppression of conflicting or unwanted data. It does not include honest error or honest differences in interpretations or judgments of data and/or results.
- For more details refer to the University of Utah’s Code of Student rights and Responsibilities (“Student Code”) at <http://www.regulations.utah.edu/academics/6-400.php>

Course outline (changes may occur during the semester):

Week	Date	Topic
1	Jan. 8	Course information and overview, statement of work report and presentation guidelines
2	Jan. 15	Project presentations by GIS/Remote Sensing “clients” in class, project selection and team formation via CANVAS on Jan. 18 th
3	Jan. 22	No class - meeting with clients
4	Jan. 29	Statement of work presentations
5	Feb. 5	No class – project work
6	Feb. 12	No class – project work
7	Feb. 19	Progress meetings – sign up for scheduled times
8	Feb. 26	Progress presentations in class
9	Mar. 5	No class – project work
10	Mar. 12	Spring Break – No class
11	Mar. 19	No class – project work (progress reports due via CANVAS) or in person if desired
12	Mar. 26	Progress presentations in class, Final report/poster/presentation Q & A session
13	Apr. 2	No class – project work
14	Apr. 9	No class – project work
15	Apr. 16	Draft poster reviews
16	Apr. 23	Final class: final presentation run through
17	TBD	Final oral presentations and posters with clients

Due Dates (changes may occur during the semester):

Project selection form: **January 17th by 5:00 pm** via CANVAS

Statement of Work written contract: **Jan. 27th by 5:00 pm** via CANVAS

Statement of Work class presentations: Jan. 29th

Progress reports: Feb. 19th (bring to meeting), March 13th (via CANVAS)

Progress class presentations: Feb. 26th, March 26th

Team evaluations: Feb. 26th, March 26th, TBD

Final poster draft: **April 16th by 9:00 am** via CANVAS

Final report draft: **April 19th by 5:00 pm** via CANVAS

Practice final oral presentations: April 23rd

Final oral presentations: TBD, April 25th – April 30th

Final report revisions: TBD, April 25th – April 30th

Final poster revisions: TBD, April 25th – April 30th

Other Important Dates:

Classes begin: January 7th

Last day to add, drop, elect CR/NC, or audit class: January 18th (Geog 5131/5161/6161 cannot be added after January 8th)

Martin Luther King Jr. Day Holiday: Monday, January 21st

Presidents’ Day Holiday: Monday, February 18th

Last day to withdraw from classes: March 8th

Spring Break: March 11th-15th

Classes end: April 23rd

Final exams: April 25th – April 30th

Utah Geographic Information Council Conference in Midway: May 6th – 10th, 2019