Term Information

Effective Term   Spring 2021

General Information

Course Bulletin Listing/Subject Area	Geography
Fiscal Unit/Academic Org	Geography - D0733
College/Academic Group	Arts and Sciences
Level/Career	Graduate
Course Number/Catalog	6299
Course Title	GIS Capstone Project
Transcript Abbreviation	GISCAPSTONE
Course Description	The purpose of this course is for students to showcase the knowledge learned and skills developed in the GIS graduate program.
Semester Credit Hours/Units	Fixed: 3

Offering Information

Length Of Course	14 Week
Flexibly Scheduled Course	Never
Does any section of this course have a distance education component?	Yes
Is any section of the course offered	100% at a distance
Grading Basis	Letter Grade
Repeatable	No
Course Components	Lecture
Grade Roster Component	Lecture
Credit Available by Exam	No
Admission Condition Course	No
Off Campus	Never
Campus of Offering	Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites	
Exclusions	
Electronically Enforced	Yes

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code	45.0701
Subsidy Level	Doctoral Course
Intended Rank	Masters, Doctoral

Requirement/Elective Designation

Required for this unit's degrees, majors, and/or minors

Course Details

Course goals or learning objectives/outcomes	• Demonstrate the ability to identify a research problem related to real-world applications
	• Demonstrate the ability to carry out a literature review
	• Propose a research plan to address the problem
	• Demonstrate the ability to collect and process data needed to address the problem
	• Demonstrate the ability to use proper methods to analyze the data
	• Demonstrate the ability to effectively summarize the research in a paper
	• Demonstrate the ability to professionally present the project to the public
Content Topic List	• This is a project oriented class and the topics will vary, based on the interest of student and advisor.
	• Students will spend the first part of the semester working on the project proposal.
	• Roughly in weeks 5-12 the period students will mainly concentrate on conducting the data collection, analysis, and writing of the project.
	• Students will use the last two weeks to provide a written document and conduct a public presentation.
Sought Concurrence	No

Attachments

• GEOG6299-inperson-capstone-project.docx: Syllabus (in-person)

(Syllabus. Owner: Xiao,Ningchuan)

• GEOG6299-online-capstone-project.docx: Syllabus (online)

(Syllabus. Owner: Xiao,Ningchuan)

• GEOG6299-asctech-review.docx: ASCTech review (online)

(Other Supporting Documentation. Owner: Xiao,Ningchuan)

Comments

• This is a new graduate level course for our master of GIS program, which will be proposed later this semester. *(by Xiao,Ningchuan on 10/06/2020 03:50 PM)*

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Xiao,Ningchuan	10/06/2020 03:50 PM	Submitted for Approval
Approved	Ettlinger,Nancy	10/06/2020 03:51 PM	Unit Approval
Approved	Haddad,Deborah Moore	10/06/2020 05:54 PM	College Approval
Pending Approval	Jenkins,Mary Ellen Bigler Hanlin,Deborah Kay Oldroyd,Shelby Quinn Vankeerbergen,Bernadette Chantal	10/06/2020 05:54 PM	ASCCAO Approval

SYLLABUS: GEOG 6299
GIS CAPSTONE PROJECT (ONLINE)
SPRING 2021

Course overview

Instructor

Instructor: Ningchuan Xiao
Email address: xiao.37@osu.edu
Phone number: 614-292-4072
Office hours: by appointment only (CarmenZoom)
Office Location: 1132 Derby Hall

Course description

The purpose of this course is for students to showcase the knowledge learned and skills developed in the GIS graduate program. During this course, students will intensively engage in the entire process of problem-solving using GIS, from identifying the problem and research method, literature review, collecting and processing data, developing and designing proper methods, analyzing data, to professionally presenting the results and findings. Students will choose a problem that reflects what they may address in a professional setting in industry, government agencies, non-government organizations, or research institutes.

Students should take this course in the last semester when they are in the program. To successfully complete this course, students must contact their academic advisor and the program coordinator at least 2 months prior to the semester they plan to take this course. This leeway will allow students and their advisors to brainstorm the problem suitable for the capstone project and to determine the appropriate steps for the student to take when this course starts. Students will then work individually with the advisor to complete this course.

Capstone projects can be based on problems from a wide range of fields. The following are three hypothetical project ideas that are stylized from projects by some previous GIS students.

When students take this course, it is extremely important to discuss with the faculty advisor before the semester starts so that they can carefully discuss the possible project ideas and narrow down to one that is feasible for the capstone.

- A consulting company has detailed real time trip data for the buses in a metropolitan area. Based on this data set, they hope to provide some suggestions about a new bus route in the city. For your capstone project, supervised by a faculty advisor, your job is to explore some potential routes so that the currently underserved communities of the city can increase their access to resources such as jobs, health facilities, childcare, and grocery shopping.

- A writer is wrapping up her new fantasy novel about life on a remote planet called Alpha Trooper in the far side of the galaxy. She wants to make a companion web site for the novel where her readers can explore the remote world through an interactive mapping and visualization system. She has some quite detailed description of the physical and social worlds on that planet and your jobs is to develop a web-based GIS platform.

- A non-governmental organization plans to understand how a neighbor in a city has been impacted by the COVID-10 pandemic. They suspected that because of the lack of affordable transportation means, families in that neighborhood were hit harder by the public health crisis. Your job is to conduct a rigorous analysis on the impacts and produce a thorough written report.

Course learning outcomes

By the end of this course, students should successfully be able to:

- Demonstrate the ability to identify a research problem related to real-world applications
- Demonstrate the ability to carry out a literature review
- Propose a research plan to address the problem
- Demonstrate the ability to collect and process data needed to address the problem
- Demonstrate the ability to use proper methods to analyze the data
- Demonstrate the ability to effectively summarize the research in a paper
- Demonstrate the ability to professionally present the project to the public

How this course works

Mode of delivery: This course is 100% online. There are no required sessions when you must be logged in to Carmen at a scheduled time.

Pace of online activities: Students must discuss with their advisors about the activities and progress for each week. Students are expected to keep pace with the deadlines and deliverables agreed upon with the advisor. All the presentations and meetings will be carried online through CarmenZoom.

Credit hours and work expectations: This is a 3-credit-hour course. According to Ohio State policy, a 3-credit hour course comprises a total of 9 hours per course per week for the student to earn a C grade.

GE Course Information

- This is not a GE course.

Course materials

Students will discuss with their faculty advisor about the readings required for their projects.

Course technology

For help with your password, university e-mail, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at https://ocio.osu.edu/help/hours, and support for urgent issues is available 24x7.

- **Self-Service and Chat support:** http://ocio.osu.edu/selfservice
- **Phone:** 614-688-HELP (4357)
- **Email:** 8help@osu.edu
- **TDD:** 614-688-8743

Baseline technical skills necessary for online courses

- Basic computer and web-browsing skills
- Navigating Carmen

Technology skills necessary for this specific course

- CarmenZoom text, audio, and video chat
- Collaborating in CarmenWiki
- Recording a slide presentation with audio narration
- Recording, editing, and uploading video

Necessary equipment

- Computer: current Mac (OS X) or PC (Windows 7+) with high-speed internet connection
- Webcam: built-in or external webcam, fully installed
- Microphone: built-in laptop or tablet mic or external microphone

Necessary software

- OpenOffice is a free and complete suite of software tools for world processing, spreadsheet, and presentations.

- [Microsoft Office 365 ProPlus](https://ocio.osu.edu) All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft's Student Advantage program. Each student can install Office on five PCs or Macs, five tablets (Windows, iPad® and Android™) and five phones.
    - Students are able to access Word, Excel, PowerPoint, Outlook and other programs, depending on platform. Users will also receive 1 TB of OneDrive for Business storage.
    - Office 365 is installed within your BuckeyeMail account. Full instructions for downloading and installation can be found https://ocio.osu.edu/kb04733.

Grading and faculty response

Grades

Each student will be assigned a letter grade based on the capstone project. The actual rubric will vary among the faculty advisors. In general the following criteria will be used:

- Work ethics. The student shows the ability to follow project schedule and to be responsive in making changes or addressing difficult situations.

- Project expectation. The research problem should be effectively addressed by the student. The project should demonstrate a level of creativity that is appropriate for a professional graduate student. The project should exhibit certain challenges that is above or beyond simple use of existing data and software tools.

- Writing. The student should demonstrate quality of writing consistent with the level of a graduate student.

- Presentation performance. The student should demonstrate ability to professionally present the project to the general public and can effectively address critiques.

Assignment information

Students will discuss with their faculty advisors about assignments and deliverables other than the presentation of the proposal in the middle of the semester and the final presentation at the end. Each student is also expected to conduct peer reviews of presentations of other students.

Late assignments

Student success in this course is dependent on closely following the schedule agreed upon with the faculty advisor. Students who are late for more than 2 weeks of the deadlines should consider an incomplete of this course.

Grading scale

93–100: A
90–92.9: A-
87–89.9: B+
83–86.9: B
80–82.9: B-
77–79.9: C+
73–76.9: C
70 –72.9: C-
67 –69.9: D+
60 –66.9: D
Below 60: E

Faculty feedback and response time

The following is a general guideline about how faculty advisor will respond to questions from the student. (Students can call **614-688-HELP** at any time if they have a technical problem.)

Grading and feedback

For large weekly assignments, you can generally expect feedback within **7 days**.

E-mail

I will reply to e-mails within **24 hours on school days**.

Attendance, participation, and discussions

Student participation requirements

Students will discuss with their faculty advisor about the deadlines and deliverables.

Discussion and communication guidelines

Students are required to communicate in a professional manner throughout the semester. Above all, please remember to be respectful and thoughtful.

- **Writing style**: While there is no need to participate in class discussions as if you were writing a research paper, you should remember to write using good grammar, spelling, and punctuation. Informality (including an occasional emoticon) is fine for non-academic topics.

- **Tone and civility**: Let's maintain a supportive learning community where everyone feels safe and where people can disagree amicably. Remember that sarcasm doesn't always come across online.

- **Citing your sources**: When we have academic discussions, please cite your sources to back up what you say. (For the textbook or other course materials, list at least the title and page numbers. For online sources, include a link.)
- **Backing up your work**: Consider composing your academic posts in a word processor, where you can save your work, and then copying into the Carmen discussion.

Other course policies

Academic integrity policy

Policies for this online course

- **Written assignments**: Your written assignments, including discussion posts, should be your own original work. In formal assignments, you should follow the Chicago style to cite the ideas and words of your research sources. You are encouraged to ask a trusted person to proofread your assignments before you turn them in--but no one else should revise or rewrite your work.
- **Reusing past work**: In general, you are prohibited in university courses from turning in work from a past class to your current class, even if you modify it. If you want to build on past research or revisit a topic you've explored in previous courses, please discuss the situation with me.
- **Falsifying research or results**: All research you will conduct in this course is intended to be a learning experience; you should never feel tempted to make your results or your library research look more successful than it was.
- **Collaboration and informal peer-review**: While study groups and peer-review of major written projects are encouraged, the capstone projects must be conducted individually by the student. If you're unsure about a collaboration situation, it is important to clarify with the faculty advisor and the graduate program coordinator.

Ohio State's academic integrity policy

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct http://studentlife.osu.edu/csc/.

Copyright disclaimer

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Statement on title IX (Recommended)

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at http://titleix.osu.edu or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at titleix@osu.edu

Accessibility accommodations for students with disabilities

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Accessibility of course technology

This online course requires use of Carmen (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor.

- Carmen (Canvas) accessibility
- Streaming audio and video
- Synchronous course tools

Your mental health! (Recommended)

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty

concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614- 292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at 614-292-5766 and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1-800-273- TALK or at suicidepreventionlifeline.org

Course schedule (tentative)

The course schedule varies, and the student should discuss with the faculty advisor prior to the semester to agree on a schedule, and the student should closely follow the schedule unless both the student and the advisor agree to change. The following is a general guideline.

Weeks 1-4

Students will spend the first part of the semester working on the project proposal.

Problem statement. Students formalize the problem that has been discussed with the faculty advisor prior to this class.

Literature review. Students will conduct a critical literature review about the problem identified. The literature review will help students position their project in the contexts of previous work and articulate their contribution.

Methodology. Students will identify appropriate methods and tools for the project.

Proposal presentation. Students are required to formally present their project to the class and their academic advisors. Each presentation will include problem statement, literature review, potential data, methods, and expected results. It is highly recommended that students show preliminary results in the presentations. The presentations will be peer reviewed and formal feedback will be provided by the academic advisors. Students must address all the critical issues raised in the reviews.

Weeks 5-12

This is the period when students will mainly concentrate on conducting the data collection, analysis, and writing of the project.

Weeks 13-14

There are two required forms of a project report.

(1) Students must provide a written document that details the project. This document should include sections such as introduction, literature review, methodology, findings, conclusions, significance, future directions, and references.

(2) Students are also required to make a <u>public presentation</u> of the project. Each presentation will be 30 minutes, which should include at least 5 minutes for questions. Presentations will also be peer reviewed, and a set of questions will be used for these reviews. Peer reviews will be provided to the presenters.

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GIS CAPSTONE PROJECT
SPRING 2021

Course overview

Instructor

Instructor: Ningchuan Xiao
Email address: xiao.37@osu.edu
Phone number: 614-292-4072
Office hours: Monday and Wednesday, 10-11:30 AM or by appointment
Office Location: 1132 Derby Hall

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(2) Students are also required to make a public presentation of the project. Each presentation will be 30 minutes, which should include at least 5 minutes for questions. Presentations will also be peer reviewed, and a set of questions will be used for these reviews. Peer reviews will be provided to the presenters.

Arts and Sciences Distance Learning Course Component Technical Review Checklist

Course: Geog 6299
Instructor: Ningchuan Xiao
Summary: GIS Capstone Project

Standard - Course Technology	Yes	Yes with Revisions	No	Feedback/ Recomm.
6.1 The tools used in the course support the learning objectives and competencies.	X			• Office 365 • Carmen
6.2 Course tools promote learner engagement and active learning.	X			• CarmenZoom • CarmenWiki • Carmen Discussion Boards
6.3 Technologies required in the course are readily obtainable.	X			All tools are available via OSU site license free of charge.
6.4 The course technologies are current.	X			All are updated regularly.
6.5 Links are provided to privacy policies for all external tools required in the course.	X			No 3rd party tools are used.
Standard - Learner Support				
7.1 The course instructions articulate or link to a clear description of the technical support offered and how to access it.	X			Links to 8HELP are provided
7.2 Course instructions articulate or link to the institution's accessibility policies and services.	X			a
7.3 Course instructions articulate or link to an explanation of how the institution's academic support services and resources can help learners succeed in the course and how learners can obtain them.	X			b
7.4 Course instructions articulate or link to an explanation of how the institution's student services and resources can help learners succeed and how learners can obtain them.	X			c
Standard – Accessibility and Usability				
8.1 Course navigation facilitates ease of use.	X			Recommend using the Carmen Distance Learning "Master Course" template developed by ODEE and available in the Canvas Commons to provide student-users with a consistent user experience in terms of navigation and access to course content.
8.2 Information is provided about the accessibility of all technologies required in the course.	X			No 3rd party tools are used
8.3 The course provides alternative means of access to course materials in formats that meet the needs of diverse learners.	X			Instructions are provided to obtain materials in another format.
8.4 The course design facilitates readability	X			
8.5 Course multimedia facilitate ease of use.	X			All assignments and activities that use the Carmen LMS with embedded multimedia facilitates ease of use. All other multimedia resources facilitate ease of use by being available through a standard web browser

Reviewer Information
• Date reviewed: 7/13/20

- Reviewed by: Ian Anderson

Notes: Good to go!

[a]The following statement about disability services (recommended 16 point font): Students with disabilities (including mental health, chronic or temporary medical conditions) that have been certified by the Office of Student Life Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office of Student Life Disability Services is located in 098 Baker Hall, 113 W. 12th Avenue; telephone 614- 292-3307, slds@osu.edu; slds.osu.edu.

[b]Add to the syllabus this link with an overview and contact information for the student academic services offered on the OSU main campus.
http://advising.osu.edu/welcome.shtml

[c]Add to the syllabus this link with an overview and contact information for student services offered on the OSU main campus. http://ssc.osu.edu. Also, consider including this link in the "Other Course Policies" section of the syllabus.