COURSE DESCRIPTION
Focuses on problem solving skills using GIS software. Students use GIS analytical skills to design, manage, and develop GIS projects, and are assigned to research and lead discussions on GIS topics related to issues or applications of their project.

TEXT BOOK & SUPPLIES
There is no textbook for this course.

Students receive a free, one-year student license of ESRI’s ArcGIS 10.3.x software for your personal workstation. Authorization codes are provided to students by the College. Students will use online ESRI learning resources available as part of the free ArcGIS student license.

It is recommended that you have at least 10GBs of space available for data storage via flash drive, portable hard drive, or cloud-based storage for GIS assignments.

ArcGIS 10.3.x is installed on all CSU general computer labs. Please plan your ArcGIS software assignments per their scheduled hours. If you experience problems with ArcGIS on CSU workstations, please contact CSU Information Technology & Services.

ASSISTANCE
For technical assistance with the online Blackboard system, contact CSU Technical Support. Please contact the professor for questions about the material, assignments, or any other concern pertaining to the course. Please give me a few days to respond to emails or phone calls. Email is the best way to reach me. I am always available for questions, suggestions, or other discussions related to mapping, GIS, and/or other educational goals.

COURSE OBJECTIVES
This course is the final class in the GIS Certificate sequence. As such, students should expect to demonstrate their advanced knowledge of GIS from the prerequisites, acquire new GIS skills, and apply the newly acquired GIS skills to a final project. The objectives are:

- Demonstrate professional grade cartographic work via web-based services
- Produce spatial databases conforming to professional standards of database design
- Construct highly customized maps
• Demonstrate online GIS capabilities
• The ability to start, conduct, and present an advanced-level GIS-based project

THE PROFESSOR
For more information about the professor, please check out the CSU Faculty Profile for Dr. Beth Nagy and her LinkedIn profile.

WHAT TO EXPECT
Our class time is dedicated to everything GIS. A typical class consists of announcements, GIS in the news, review of assignments, introduction of new material, expectations for the next class, and lab time. You should be prepared to do a lot of lab work. A 4-credit hour class requires up to 12 hours of work outside of class time.

For technical assistance with the online Blackboard system, contact CSU Technical Support. Please contact the professor for questions about the material, assignments, or any other concern pertaining to the course. I will respond to your emails within a few days. It is the student’s responsibility to ensure that the technology you're using to complete the coursework is functional and available (device, internet access, software used to compose assignments).

CLASSROOM ENVIRONMENT
Using the software requires practice. You will make mistakes. There will be software glitches. As a team, we can provide a lot of help to each other. I am available for assistance with tutorials, homework assignments, or other helpful insight, but you are also available to each other. You can also find just about any answer to an ESRI GIS problem searching ESRI, Google or Youtube.

This class encourages students to work together; however, submitting another person's assignment as your own is considered plagiarism and will be subject to CSU's Academic Misconduct Policy.

GRADING CRITERIA
The grade for this class is based on the accumulation of points divided by the total number of points possible. No grading curve is applied.

The total amount of points for work related to this course roughly break down as:
10% - Attendance
60% - Assignments
30% - Project

These course requirements comprise your grade:
1) Attendance – Full attendance is expected.
2) Assignments – Assignments are provided through ESRI E-Learning. Homework assignments are to be completed before the next class unless otherwise noted.
Points are deducted for submitting homework late at a rate of 1 point per day, beginning one minute after class begins.

3) Final GIS Project – Students design and create an independent GIS project on a topic of their choice. Project specifications will be provided after midterms.

The CSU grading scale is used:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
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<tbody>
<tr>
<td>A</td>
<td>92.51 to 100</td>
</tr>
<tr>
<td>A-</td>
<td>89.51 to 92.50</td>
</tr>
<tr>
<td>B+</td>
<td>87.51 to 89.50</td>
</tr>
<tr>
<td>B</td>
<td>82.51 to 87.50</td>
</tr>
<tr>
<td>B-</td>
<td>79.51 to 82.50</td>
</tr>
<tr>
<td>C+</td>
<td>77.51 to 79.50</td>
</tr>
<tr>
<td>C</td>
<td>69.51 to 77.50</td>
</tr>
<tr>
<td>D</td>
<td>60 to 69.50</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 60</td>
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</tbody>
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Incomplete Grade: The "I" grade is given when the work in a course has been generally passing, but when some specifically required task has not been completed through no fault of the student.

An "I" grade can be assigned by the instructor when all three of the following conditions are met:

1. Student is regularly attending/participating in the class and has the potential to pass the course;
2. Student has not completed all assignments and has stopped attending/participating for reasons deemed justified by the instructor;
3. The student has notified the instructor prior to the end of the grading period.

STUDENTS WITH SPECIAL NEEDS
Educational access is the provision of classroom accommodations, auxiliary aids and services to ensure equal educational opportunities for all students regardless of their disability. Any student who feels he or she may need an accommodation based on the impact of a disability should contact the Office of Disability Services at (216)687-2015. The Office is located in MC 147. Accommodations need to be requested in advance and will not be granted retroactively.

RIGHTS & RESPONSIBILITIES
Just like the American democratic process, students and instructors have the right to criticize and question what is being read or heard, without fear of ridicule or threat of retribution. Students and instructors have the right to be treated equally and with
respect. Students have the right to be fully informed of course requirements, grading procedures and to receive prompt and helpful feedback on assignments. The instructor will treat criticisms and questions with the full respect they deserve, apply rules equally, return graded work promptly, and provide a quality course experience.

Students’ first responsibility is to give the professor, classmates, guests, and communities the same respect students have the right to expect. The instructor expects students to always be respectful of others in our space. Students do not necessarily have to agree, but students do have to respect the public space and its dialogue. The instructor will not tolerate abuse or insult of any individuals or groups. It is the instructor’s right and responsibility to inform students when there is a violation of the rights of others to a respectful, focused, classroom environment.

The CSU Code of Conduct is your guide to acceptable and unacceptable behaviors as a student. The American Association of University Professors Statement on Professional Ethics is my guide to professional responsibilities in the Academy. The American Planning Association’s Ethical Principles in Planning is my guide to professional standards as a Planner. The GIS Certification Institute outlines a GIS Code of Ethics for GIS Professionals (GISP).

**SCHEDULE**

The following schedule is a guide to what we will cover during the semester. It’s possible that other learning opportunities arise that we can benefit from and will be incorporated at the discretion of the instructor. *The schedule is subject to change at any time.*

**Week One: Wednesday, January 18**  
Welcome & Course Expectations  
Refresher & ESRI E-Learning: Getting Started with ArcGIS

**Week Two: Wednesday, January 25**  
Getting Started with Geodatabases

**Week Three: Wednesday, February 1**  
Do-It-Yourself Geo Apps, Sections 1-3

**Week Four: Wednesday, February 8**  
Do-It-Yourself Geo Apps, Sections 4 & 5

**Week Five: Wednesday, February 15**  
Do-It-Yourself Geo Apps, Sections 6 & 7

**Week Six: Wednesday, February 22**  
Getting Started with Geodatabase Topology

**Week Seven: Wednesday, March 1**  
Working with Annotation
Week Eight: Wednesday, March 8
Getting Started with Cartographic Representations

SPRING BREAK – March 13-17

Week Nine: Wednesday, March 22
Python for Everyone

Week Ten: Wednesday, March 29
Planning a Cartography Project

Week Eleven: Wednesday, April 5
Spatial Data Mining

Week Twelve: Wednesday, April 12
  • Final Project Proposal

Week Thirteen: Wednesday, April 19
  • Final Project Progress

Week Fourteen: Wednesday, April 26
  • Final Project Progress

Week Fifteen: Wednesday, May 3
  • Final Project Presentations

FINAL EXAM WEEK
  • Final Project due Wednesday, May 8 at 6 p.m.