COURSE DESCRIPTION
The course focuses on the principles of Geographic Information Systems (GIS) as a tool to provide geospatial information analysis and displaying results using industry standard map design and output. Students learn techniques in importing attribute and spatial data; recognize critical components of cartography to design appropriate map output; build attribute and spatial queries in problem solving in spatially related project analysis. Laboratory exercises incorporate the use of GIS software to aid in the analysis of workplace problem situations.

TEXT BOOK & SUPPLIES
ISBN: 9781589484566

Textbooks can be purchased from the CSU Bookstore or other retailers. Please make sure you have the correct edition. One copy is on reserve in the CSU Library and available for two hour rentals. To date, I have not seen any copies available through OhioLink, but you can also check with your local public library.

Students receive a free, one-year student license of ArcGIS 10.3.x software for your personal workstation. Authorization codes are provided to students by the College.

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 urban studies topics and/or your educational goals. Minkyu and I are available for assistance with tutorials, homework assignments, or other helpful insight.

**COURSE OBJECTIVES**
This course will provide you with a comprehensive overview of GIS. It is designed to give students a basic understanding of, and hands-on practice with industry standard GIS software, and exploration of other map-based tools.

The measurable objectives of the course are for students to be able to:

- Explain GIS and its applications;
- Define GIS vocabulary and terminology;
- Conduct spatial analysis and generate accurate results using ESRI ArcGIS software;
- Design maps for professional presentation.
- Assemble a portfolio of your best assignments.

**THE PROFESSOR**
For more information about the professor, please check out the [CSU Faculty Profile for Dr. Beth Nagy](https://example.com) and her [LinkedIn profile](https://example.com).

**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](https://example.com). 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 24 hours. 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).

Generally, the course follows this outline:

- What is GIS and how can a GIS be used?
- Exploration of spatial analysis tools and topics
- ESRI ArcGIS 10.3.x intensive labs
- Final Portfolio

**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. 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](https://example.com).
**ABSENCES**

It is important to distinguish between excused and unexcused absences from class. An excused absence has at least one of these characteristics:

1. The instructor is notified in advance of the absence and grants the students permission for the excuse.

2. An excused absence occurs due to an extreme event. Examples of extreme events include medical emergencies, crimes against you, car accidents, court appearances, jury duty, or other circumstances that cannot be anticipated.

3. An excused absence has documentation that can and will be verified.

Only when all three of these conditions are met, will an excused absence will be granted.

**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:
- 25% - Attendance
- 60% - Assignments
- 15% - Portfolio

These are the course requirements:

1) Attendance – Full attendance is expected and taken during class.

2) Reading & Discussion – Readings assigned should be completed prior to the following class.

3) Assignments – Assignments are provided on BlackBoard and discussed in class. Homework assignments are to be submitted electronically to Blackboard assignment submission links on the homepage AND as hard copies. Submit your assignment to BlackBoard as .pdf screenshots or images pasted into a .doc or .docx and hard copies brought to class. Points are deducted for submitting homework late at a rate of 1 point per day, beginning one minute after class begins. I use the Blackboard submission link as the time assignments are submitted. If you are absent on the due date of an assignment, you are still expected to submit the work by the due date unless an extension is granted.

4) Final GIS Portfolio – Assemble a portfolio of your work from the semester.

Full credit is awarded for:
- On-time submissions,
- Correct cartographic format,
- Accuracy of analysis,
- Professional, in-color maps.
Points are deducted for:

- **Late submissions.** I accept late assignments. The late submission policy for this class is 1 point deduction per day, beginning one minute after assignment due date & time. 10% deduction per day applies to the final portfolio. Alternative arrangements are possible in the event of unforeseen circumstances. Please contact the professor to discuss your situation.
- **Incorrect or incomplete cartographic format:** Maps have a cartographic standard as to what elements should be included in its design. We will discuss these standards. I expect these elements to be included in each map and will deduct credit if they are not all present on your map.
- **Accuracy of analysis:** There is a correct answer to each workbook assignment. I am flexible on colors, text font, and arrangement of map elements, but not flexible on the accuracy of the analysis. I deduct points for the wrong answer.
- **Unprofessional maps:** Text is not correctly spelled, spaced or placed. There are overlapping elements preventing clear reading of the information. Cartographic elements are cut off or do not appear on hard copy. All maps have to be in-color.

You will be able to see your grades and my written feedback about your work in your Blackboard grade center. Please give me about one week from the submission date to complete grading.

The CSU grading scale is used:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<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>
</tr>
</tbody>
</table>

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 (ODS) at (216)687-2015. The Office is located in MC 147. Accommodations need to be requested *in advance* and will not be granted retroactively. If you have an Accommodation Memo from ODS or would like to discuss another special circumstance, please make an appointment with me to discuss your situation.

**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: Monday, January 16**
**NO CLASS – MARTIN LUTHER KING, JR. DAY HOLIDAY**
Week Two: Monday, January 23
- Welcome & Course Expectations
- Chapter 1: Introduction
  - Tutorials 1-1 through 1-9
  - Assignment 1-1 OR Assignment 1-2

Week Three: Monday, January 30
- Chapter 1 Assignment Due
- Chapter 2: Map Design
  - Tutorials 2-1 through 2-8 (Skip Tutorial 2-7 Creating fishnet maps)
  - Assignment 2-1, Assignment 2-2 OR Assignment 2-3

Week Four: Monday, February 6
- Assignment 2 Due
- Chapter 3: GIS Outputs
  - Tutorials 3-1 through 3-8
  - Assignment 3-1, Assignment 3-2, Assignment 3-3 OR Assignment 3-4

Week Five: Monday, February 13
- Assignment 3 Due
- Chapter 4: File Geodatabases
  - Tutorials 4-1 through 4-6
  - Assignment 4-1 OR Assignment 4-2
- Assignment 4 due Friday, February 17 by 5 p.m.

Week Six: Monday, February 20
NO CLASSES – PRESIDENTS' DAY HOLIDAY

Week Seven: Monday, February 27
- Chapter 5: Spatial Data
  - Tutorials 5-1 through 5-11
  - Assignment 5-1 OR Assignment 5-2

Week Eight: Monday, March 6
- Assignment 5 Due
- Chapter 6: Geoprocessing
  - Tutorials 6-1 through 6-6 (skip Tutorial 6-7 Automating with ModelBuilder)
  - Assignment 6-1 OR Assignment 6-2
- Assignment 6 due Friday, March 10 by 5 p.m.

SPRING BREAK – March 13-17

Week Nine: Monday, March 20
- Chapter 7: Digitizing
  - Tutorials 7-1 through 7-5
o Assignment 7-1 OR Assignment 7-2

Week Ten: Monday, March 27
- Assignment 7 Due
- Chapter 8: Geocoding
  o Tutorials 8-1 through 8-5
  o Assignment 8-1 OR Assignment 8-2

Week Eleven: Monday, April 3
- Assignment 8 Due
- Chapter 9: Spatial Analysis
  o Tutorials 9-1 through 9-4
  o Assignment 9-1, Assignment 9-2, OR Assignment 9-3

Week Twelve: Monday, April 10
- Assignment 9 Due
- Chapter 10: ArcGIS 3D Analyst for Desktop
  o Tutorials 10-1 through 10-10
  o Assignment 10-1, Assignment 10-2, OR Assignment 10-3

Week Thirteen: Monday, April 17
- Assignment 10 Due
- Chapter 11: ArcGIS Spatial Analyst for Desktop
  o Tutorials 11-1 through 11-6
  o Assignment 11-1 OR Assignment 11-2

Week Fourteen: Monday, April 24
- Assignment 12 Due
- Chapter 12: ArcGIS Network Analyst for Desktop
  o Tutorials 12-1 through 12-5
  o Assignment 12-1, Assignment 12-2, OR Assignment 12-3

Week Fifteen: Monday, May 1
- Assignment 12 Due
- Final Portfolio Assigned

FINAL EXAM WEEK
- Final Portfolio Due Monday, May 6 at 6 p.m.