CLEVELAND STATE UNIVERSITY
MAXINE GOODMAN LEVIN COLLEGE OF URBAN AFFAIRS

UST 485/585 GIS Principles/Foundations	**Mondays & Wednesdays 4:00-5:50 PM**
Daniel Meaney, GISP	**Office Hours: After class or by appointment**
Office Location: Levin College, Room ___	**Phone: 440-212-5059**
Class Room: UR Lab 0040	**Email:** d.meaney@csuohio.edu
	GIS Tutor: Minkyu Yeom, Ph.D. Candidate Office: UR 344k 2452291@gmail.com

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

Gorr, Wilpen L. and Kurland, Kristen S. (2016). GIS tutorial I: Basic workbook, 10.3.x edition. Redlands, CA: ESRI Press.
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. It is recommended that you purchase a hardcopy edition of the text (not digital), as you will need to refer to the book while working through exercises and doing assignments.

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 day 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 you 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 assignments.

THE PROFESSOR

Daniel Meaney is a certified Geographic Information Professional (GISP) with over 25 years of experience practicing GIS in local government. Dan is currently serving as Manager of Research & Information Services for the Cuyahoga County Planning Commission, and oversees GIS and data management support to planning staff and various County departments.

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 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.

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.

UNIVERSITY DEADLINES

- For the current semester, the deadline for dropping a course is **September 8, 2017.**
- The last day to withdraw from the course is November 3, 2017.
- The final examination week is December 11-16, 2017.

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 must 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.

Student Grading

CSU uses the following letter grades with plusses and minuses. In the Levin College the letter grades follow this numeric scale:

A = 94-100%
A- = 90-93
B+ = 87-89
B = 83-86
B- = 80-82
C+ = 77-79 (there is no C+ grade for graduate students; C = 70-79 for grad students)
C = 70-76 for undergraduates, 70-79 for grad students
D = 60-69 (there is no D for graduate students)
F = 59 and below for undergraduates, 69 and below for graduate students

Grades of "I" and "X"

- **X – Effective Fall 2016, for <u>undergraduate courses</u> the grade of "X" can only be administratively assigned by the Office of the University Registrar to indicate a grade has not been assigned by an instructor. For undergraduate students who have stopped attending/participating without notification and have not completed all assignments for reasons that cannot be determined, instructors should assign the earned grade. Any grade of "X" will become a grade of "F" at 11:59 PM the day following the grading deadline.**

  Instructors of graduate courses continue to have the ability to assign the grade of "X" when appropriate and graduate level "X" grades follow the Incomplete Deadline as stated in the Academic Calendar.

- **I - Incomplete.** 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; and
3. Student has notified the instructor prior to the end of the grading period.

<u>Students with Special Needs</u>

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. Students should notify the instructor as soon as possible if they have been granted an accommodation through the Office of Disability Services.

<u>Writing Assistance</u>

Students with difficulty writing may contact the Writing Center located in Rhodes Tower 124 for assistance. Students should use the American Psychological Association (APA) format for citations and reference pages.

<u>Plagiarism</u>

Plagiarism is stealing and/or using the ideas or writings of another in a paper or report and claiming them as one's own. This includes but is not limited to the use, by paraphrase or direct quotation, of the work of another person without full and clear acknowledgment.
The penalties for plagiarism are found in full in the Student Handbook (Office of Student Life) under Academic Regulations (Policy on Academic Misconduct) at the following link:

https://www.csuohio.edu/sites/default/files/StudentCodeOfConduct.pdf

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, and will be announced in class and on the blackboard site.

Monday, August 28th

- Welcome & Course Expectations
- *Chapter 1: Introduction*
    - *Tutorials 1-1 through 1-9*
    - *Assignment 1-1 OR Assignment 1-2*

Wednesday, August 30th

- Instruction and Lab Time

Monday, September 4th

- HOLIDAY – NO CLASS

Wednesday, September 6th

- 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*

Monday, September 11th

- 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*

Wednesday, September 13th

- Instruction and Lab Time

Monday, September 18th

- Assignment 3 Due
- *Chapter 4: File Geodatabases*
    - *Tutorials 4-1 through 4-6*
    - *Assignment 4-1 OR Assignment 4-2*

Wednesday, September 15th

- Instruction and Lab Time

Monday, September 25th

- Assignment 4 due
- *Chapter 5: Spatial Data*
    - *Tutorials 5-1 through 5-11*
    - *Assignment 5-1 OR Assignment 5-2*

Wednesday, September 27th

- Instruction and Lab Time

Monday, October 2nd

- 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*

Wednesday, October 5th

- Instruction and Lab Time

Monday, October 9th

- Assignment 6 Due.
- *Chapter 7: Digitizing*
    - *Tutorials 7-1 through 7-5*
    - *Assignment 7-1 OR Assignment 7-2*

Wednesday, October 11th

- Instruction and Lab Time

Monday, October 16th

- Assignment 7 Due
- *Chapter 8: Geocoding*
    - *Tutorials 8-1 through 8-5*
    - *Assignment 8-1 OR Assignment 8-2*

Wednesday, October 18th

- Instruction and Lab Time

Monday, October 23rd

- Assignment 8 Due
- *Chapter 9: Spatial Analysis*
    - *Tutorials 9-1 through 9-4*
    - *Assignment 9-1, Assignment 9-2, OR Assignment 9-3*

Wednesday, October 25th

- Instruction and Lab Time

Monday, October 30th

- Assignment 9 Due
- *Chapter 10: ArcGIS 3D Analyst for Desktop*
    - *Tutorials 10-1 through 10-10*
    - *Assignment 10-1, Assignment 10-2, OR Assignment 10-3*

Wednesday, November 1st

- Instruction and Lab Time

Monday, November 6th

- Assignment 10 Due
- *Chapter 11: ArcGIS Spatial Analyst for Desktop*
    - *Tutorials 11-1 through 11-6*
    - *Assignment 11-1 OR Assignment 11-2*

Wednesday, November 8th

- Instruction and Lab Time

Monday, November 13th

- Assignment 11 Due
- *Chapter 12: ArcGIS Network Analyst for Desktop*
    - *Tutorials 12-1 through 12-5*
    - *Assignment 12-1, Assignment 12-2, OR Assignment 12-3*

Wednesday, November 15th

- Instruction and Lab Time

Monday, November 20th

- Assignment 12 Due
- Topics TBA
- Assignment 13 Assigned

Wednesday, November 22nd

- Instruction and Lab Time

Monday, November 27th

- Assignment 13 Due
- Topics TBA
- Assignment 14 Assigned

Wednesday, November 29th

- **Final Portfolio Assigned**
- Instruction and Lab Time

Monday, December 4th

- Assignment 14 Due
- Topics TBA

Wednesday, December 6th

- Final Portfolio Due **at 6 p.m.**
- No Class