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# ESC/GEO 305-Online: Geographic Information System and Science-I

Department of Geography & Earth Science

University of Wisconsin-La Crosse

Spring 2021

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<b>Instructor:</b>	Gargi Chaudhuri, PhD	<b>Class Location:</b>	Zoom; Pswd: 3052021
<b>Email:</b>	gchaudhuri@uwlax.edu	<b>Lecture Day/Time:</b>	Tues/Thurs-2:15-3:15PM
<b>Virtual Office Hours:</b>	Mon/Wed: 2:30-4:00PM	<b>Lab Location:</b>	Remote Access
<b>Virtual Office Location:</b>	Zoom	<b>Lab Day/Time:</b>	Tues/Thurs-3:15-4:15PM
<b>Office Phone:</b>	608-785-8338	<b>Credit Hours:</b>	3

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## COURSE DESCRIPTION

Students will acquire fundamental knowledge and learn key concepts underlying spatial data, different map types and uses, thematic symbolization and visualization, and spatial analytical techniques. They will learn how to critically assess and communicate knowledge concerning spatial environments. Students will also learn how to use desktop GIS applications (e.g. ArcGIS-Pro) and mapping technologies (e.g. drones). It is assumed that the students have familiarity with basic computer skills. Students will be expected to retain knowledge of steps. Step by step instructions for tasks that have already been covered will not be provided every time. Keeping a journal for the lab portion of this course will prove useful in this course and in future courses.

## COURSE GOALS

- 1. To understand the basic principles and concepts of maps, geospatial data and technology. .
- 2. To obtain hands-on experience on variety of map making techniques and software. .
- 3. To appreciate some critical issues associated with maps and geospatial concepts.

**PRE-REQUISITES:** None

**TEXTBOOK & READINGS:** *Kimerling, A. J. et al (2012), Map Use: Reading, Analysis, Interpretation, ESRI Press.* The book chapters in the schedule refers to this textbook mentioned above. Additional readings and labs will be posted on Canvas course site and in the class folder. Class lectures will be also posted on Canvas after their correspondent lecture sessions.

## EXPECTATIONS FROM THE STUDENT

To be successful in this course, a student must

- There will also be information that will be only discussed during class time. Therefore, if you miss class you must obtain the notes from your classmate.
- Complete their reading assignment for the upcoming lecture before the class. This will help them to understand the materials taught in the class, and the students will be able to clarify issues within class itself while the topic is being taught.
- Go through the lecture materials regularly
- Listen to lectures carefully and take notes over written materials.
- Attend class regularly.
- Submit completed assignments, exams, homeworks, final projects and any other class activity within due dates.
- Ask questions and discuss topics within the lecture session. Clarify issues within class itself while the topic is being taught.

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## ASSIGNMENTS

- **Lab Assignments:** You need to complete all lab assignments and submit in required format by its due date to be considered for full grades in each assignment. If you fail the lab assignments, you will fail the course. You will have enough time to complete each assignment within assigned lab time with help from me and/or lab assistant. If you choose not to complete your work within lab time, it's your responsibility to finish on time by yourself.
- **Homeworks:** There will be few homeworks that you will be provided based on some lecture materials. Homeworks are meant to be done on your own and submit it by the due date.
- **Student Review:** Students will be assigned reading materials from the text book or scientific articles to critically evaluate and present in class.
- **Student Presentations:** Students will present a critical evaluation of a map, spatial analysis, and/or geospatial project they found via research. Students will receive extra points if they create a map/ spatial analysis on their own and present it.
- **Exams:** There will be **three exams on the dates listed in the syllabus** and are designed to assess your comprehension of the presented materials. Two exams will be based on lecture materials and readings and will be named as Mid-term and Final exams. One exam will be based on hands-on problem solving called Lab Exam. Make-up exams will be given **ONLY** during exceptional circumstances, such as illness or university-approved event, and proof will be required. In cases where you have a scheduling conflict with a university-approved event, it is **YOUR** responsibility to notify the instructor at least two weeks before the exam. In the case of emergencies, it is **YOUR** responsibility to notify the instructor that you will be unable to attend, preferably before the exam or within 24 hours after the exam.

## LATE SUBMISSION POLICY

Late submission of any assignment is strongly discouraged. However, turning a lab late is encouraged over not doing it at all. Late submissions will be accepted until the *last day of classes*. **One week late submission will lose 25%** of their value and **more than one week late submission will lose 50%** of their value if more than one week late. In case of sickness or emergency, appropriate proof should be provided during late submission otherwise points would be deducted.

## ATTENDANCE

Due to COVID-19 and online nature of the class, the scheme to assess attendance may change.

## COVID-19 Health Statement

Students with COVID-19 symptoms or reason to believe they were in contact with COVID-19 should call and consult with a health professional, such as the UWL Student Health Center (608-785-8558). Students who are ill or engaging in self-quarantine at the direction of a health professional should not attend class. Students in this situation will not be required to provide formal documentation and will not be penalized for absences. However, students should:

- notify instructors in advance of the absence and provide the instructor with an idea of how long the absence may last, if possible;
- keep up with classwork, if able;
- submit assignments electronically;
- work with instructors to either reschedule or electronically/remotely complete exams, labs, and other academic activities;
- consistently communicate their status to the instructor during the absence.

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Instructors have an obligation to provide reasonable accommodation for completing course requirements to students adversely affected by COVID-19. This policy relies on honor, honesty, and mutual respect between instructors and students. Students are expected to report the reason for absence truthfully and instructors are expected to trust the word of their students. UWL codes of conduct and rules for academic integrity apply to COVID-19 situations. Students may be advised by their instructor or academic advisor to consider a medical withdrawal depending on the course as well as timing and severity of illness and students should work with the Office of Student Life if pursuing a medical withdrawal.

### **FORMAT & COURSE ACCESS**

This is an *online course*. Lectures will be delivered online synchronously via Zoom. Here is the link and the password is **3052021**. You can ask questions and clarify doubts with the instructor during your session. All course materials will be available online, including lectures, lab assignments handouts, video demonstrations for assignments, quizzes, assignment dropboxes, and other miscellaneous instructions. You will need your UWL NetID to login to the course from the CANVAS homepage. The lab assignment data will be available via Geography server folders. The GIS lab computers will be available remotely via VPN. Detailed instructions on how to access the lab computers will be provided on Canvas. Access to course materials in CANVAS will cease after the term ends. If you wish to archive materials for your personal records or portfolio you should do so as you progress through the course. As a general rule, you should always save local copies of course-related work. To avoid disasters, you should also save important files to external media or cloud storage.

### **TECHNICAL SUPPORT**

For tips and information about Canvas visit the Canvas Guide for Student. You can also contact the ITS Support Center at (608) 785-8774 or helpdesk@uwlax.edu for questions about Canvas or any other technological difficulties. The hours for ITS are Monday through Thursday from 7:30 am to 6:30 pm, and Friday from 7:30 am to 4:30 pm, Central Time. For GIS software and computer issues in the lab please contact the GIS Lab Administrator Steve Fulton.

### **GRADING SCHEME**

A	93 – 100	B	83 – 87	C	70 - 77	F	59 & below
AB	88 – 92	BC	78 – 82	D	60 - 69		

### **GRADING WEIGHT**

Lab Assignments	10 lab assignments and homeworks	50%
Exams	includes 3 exams, student presentations	30%
Class Participation	attendance, syllabus quiz, discussion, reviews	20%

### **STUDENT SUPPORT SERVICES**

A GIS Lab Assistant will be available online to help students with the lab assignments. More details will be provided on canvas.

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**TENTATIVE SCHEDULE** (*Due dates are available on Canvas*)

<b>Week</b>	<b>Tuesday</b>	<b>Thursday</b>	<b>Reading</b>	<b>Lab</b>
2/2, 2/4	Course Intro& HW#1	Lec#1: Shape, Size & Scale	Lab 1	Ch. 1 & 2
2/9, 2/11	Lec#2: Map Proj I	Lec#3: Map Proj I	Lab 2	Ch. 3
2/16, 2/18	Lec#4: Coord.Sys I	Lec#5: Coord. Sys II	–	Ch. 2 & 4
2/23, 2/25	Lec#6: Carto. Gen I	Lec#7: Carto. Gen II	Lab 3	Slocum Ch.6
3/2, 3/4	Lec#8: Cartometry I	Student Review	–	Chap. 12
<b>3/9, 3/11</b>	<b>Exam 1</b>	Lec#9: Cartometry II	Lab 4	Ch. 12
3/16, 3/18	Lec#10: Nav. I - Pos. Deter.	Lec#11: Nav. II - Route Selec.	Lab 5	Ch. 13 & 14
3/23, 3/25	Lec#12: Terrain Map I	Lec#13: Terrain Map II	Lab 6	Ch. 9, 16
3/30, 4/1	Lec#14: Them. Maps & Des. I	Lec#15: Them. Maps & Des. II	Lab 7	Ch. 6, 7, 8
4/6, <del>4/8</del>	Student Review	<b>Exam 2</b>	–	–
4/13, 4/15	Lec#16: GIS I	Lec#17: GIS II	Lab 8	TBA
4/20, 4/22	Lec#18: WebGIS & HW#2	Lec#19: WebMaps & HW#3	–	TBA
4/27, 4/29	Lec#20: Remote Sens.	Lec#21: Remote Sens.	Lab 9	TBA
5/4, 5/6	Student Presentations	Student review	Lab 10	TBA
<b>5/12-Wed.</b>	<b>Exam 3</b>	<b>7:45-9:45AM</b>	–	–

The instructor reserves the right to change the content of the course material if she perceives a need due to pandemic, instructor illness or due to the pace of the course. Students are responsible for any announcement made in class.

### **HOW TO CONTACT THE INSTRUCTOR**

If you have any issues talk to your instructor during office hours or before or after the class. Do not completely rely on emails. If you have to send an email, email with clear subject, course and section number, and sign off with your name.

### **EXPECTATIONS FOR GRADED WORK**

Generally, I return graded assignments with individualized feedback, if needed, within 21 days from the due date of the assignment. I will notify you if I am unable to grade the work within the 21-day timeframe, and will identify a revised return date. If you submit work after the due date, it may not be returned within 21 days. The grades for any work that is graded electronically, such as scanned examinations or automated quiz, will be accessible to you within 21 days of the due date. If you submit electronically graded work after the due date, it may not be accessible within 21 days. Your graded coursework will be returned in compliance with FERPA regulations, such as in class, during my office hours, or via the course management system through which only you will have access to your grades.

### **UWL SYLLABUS POLICY & STATEMENTS**

Please check here for statements regarding **Academic integrity and misconduct, religious accommodation, sexual misconduct, student course and faculty related concern, students with disabilities, veterans and military personnel.** Please check here to find out more about Academic Services and resources at UWL