Syllabus: The Digital World v2.0

Geography 1001 - Fond du Lac Tribal and Community College – Spring 2019

Syllabus and schedule are subject to minor changes at the discretion of the course instructor.

Instructor

Dr. Carl M. Lemke Oliver Sack, carl.sack@fdltcc.edu

Office Hours

12-2 pm Tuesdays and Thursdays, Room W222.

Class Meetings

We will meet 9-10:15 am Mondays and Wednesdays in Room 208.

Course Overview

This course represents a broad overview of geospatial technologies and data used to observe, map, and describe our shared planet. We will cover the nature of spatial information, cartography, geographic information systems (GIS), GPS and other global navigation systems, and remote sensing. Students will apply these technologies in weekly hands-on labs. This course is intended for non-GIS majors but may be helpful as an introductory course for the GIS major or certificate. The course meets MnTC Goal Area 10.

We will cover the following topic areas:

1. The nature of geospatial information (1 week)
2. Creating geospatial data (3 weeks)
3. Acquiring geospatial data (2 weeks)
4. Processing geospatial data (2 weeks)
5. Visualizing geospatial data (3 weeks)
6. Geospatial data horizons and ethics (1 week)

Learning Materials

There is no online textbook for this course. We will be making use of a variety of free online learning materials throughout the semester. I will also provide PowerPoint lectures that you will be expected to take notes on as they are delivered.

What you can expect from me

I have a passion for geography and maps, and hope to impart some of that passion in my teaching. I intend for this to be a fun, somewhat open-ended course, so if there's something you're interested in exploring more, let me know and we can spend some time on it. I will do my best to meet your needs as a learner and communicate course expectations fully and openly. My office door is always open when I'm there, and I'll return any emails, phone calls, etc. as promptly as I can.

What I Expect from You

This is a 3-credit (2 lecture, 1 lab), freshman-level college course. This means you should put in an average of 5 hours a week of homework for the course. I expect you to attend every class meeting possible; if you have to miss, please notify me *in advance* and make up any work for the period promptly. I expect you to complete assignments on time and to take notes on lecture material in class. If you find yourself struggling in the course, do not hesitate to reach out to me so we can make a plan for you to catch up or make other accommodations to meet your needs as a learner.

Course Feedback

Your direct and timely feedback will help me improve the class. I am open to any suggestions you have both in person during class and more privately via email or an office hours visit. If you are experiencing a problem, the sooner you let me know, the the easier it will be to address.

Course Goals

Upon completion of this course, students will be able to:

1. Describe the differences between geospatial data and other forms of data without a geospatial component
1. Use proper terminology to describe the ways in which phenomena vary across space
2. Acquire remote sensing imagery from online repositories and identify natural and human-made phenomena within it
3. Use a handheld GPS receiver to collect geospatial data and upload that data to a GIS
4. Perform basic spatial analysis operations in open-source GIS software
5. Appropriately classify and symbolize data to create a thematic map
6. Critique the ontology, power relations, and possible unintended consequences of digital geospatial information.

Course Activities

The topic sequence is listed in the schedule at the end of the syllabus. Course activities will include:

Readings and Multimedia

You will be assigned online readings, videos, etc. to supplement the lecture material. You will not be directly quizzed on these materials, but they will be fair game for the exams.

Lecture and Discussion

Each week's material will be presented in PowerPoint format. You are expected to take notes, ask questions, and speak up with other thoughts, opinions, ideas, etc. Don't be a seat-warmer. The more you engage with the material, the more you will learn.

Lab Activities

A lab will accompany each lecture topic, giving you hands-on experience working with the concepts presented. The labs should be relatively short and easy, applying the material at a general level. Each one should be completable in the class time allotted for it, but any work you do not complete in class you are expected to finish as homework and turn in by the specified deadline. All of the software we will use in class will be free to install/use on personal laptops as well as installed on the computers in the open PC lab on campus.

Exams
There will be two exams during the course: A midterm exam and a final exam. The final exam is cumulative and will be given during the final exam period, 9-10:50 a.m. on Monday, May 13.

Grading

Percentages of your final grade:
Attendance and participation: 20%
Lab Activities: 50%
Exams: 30%

Final grade breakdown:
A: 90-100%
B: 79-89%
C: 69-78%
D: 59-68%

I reserve the right to curve grades upward based on the class distribution of final grades. You will never get a lower grade based on your score than what is indicated above.

Late Work

All work is due at the start of class (1 pm sharp) on the due date unless you have been granted an extension in advance. Late work received up to the start of the second class period after it was due will be discounted by **15%** (example: an assignment due Monday, turned in at 1 pm the following Monday)**.** Late work received after that time until the end of the course will be discounted by **50%.** Late work will not be accepted after 5 pm on Tuesday, May 14 (the last day of the semester).

Plagiarism

You may not copy others' work without attribution/citation or have others complete your work for you. If you copy text, it must be in double-quotes ("") with credit given to the original author, and should account for a small minority of your submission. You must appropriately cite all data sources on your maps. There are no team-based assignments in this course; you must submit your own unique product for each assignment. Plagiarism, or presenting the work of another as your own (a.k.a. "copying"), results in an F for this course and is subject to any other disciplinary actions mandated by this institution and the Minnstate system.

Disabilities Notice

Fond du Lac Tribal & Community College is committed to providing equitable access to learning opportunities for all students. Under the Americans with Disabilities Act and Section 504 of the Rehab Act, Fond du Lac Tribal & Community College provides students with disabilities (e.g., mental health, attentional, learning, chronic health, sensory or physical) reasonable accommodation to participate in educational programs, activities or services. Students with disabilities requiring accommodation to participate in class activities or meet course requirements should first complete an intake form and necessary requirements with Nancy Olsen, Disability Services coordinator, to establish an accommodation plan. She can be reached at nancy.olsen@fdltcc.edu or 218-879-0819.

Sexual Violence

Fond du Lac Tribal & Community College is committed to providing an environment free of all forms of discrimination and sexual harassment, including sexual assault, domestic and dating violence, gender or sex-based bullying and stalking. If you or someone you know has experienced gender or sex-based violence (intimate partner violence, attempted or completed sexual assault, harassment, coercion, stalking, etc.), know that you are not alone. Fond du Lac Tribal & Community College has staff members trained to support survivors in navigating campus life, accessing resources, providing accommodations, assistance completing with protective orders and advocacy. For more information regarding the Campus Security Report, the following link will give you a report on the Clery Compliance and Security Report at FDLTCC: http://fdltcc.edu/about-us/policies-reports/campus-security-policies-reports/

Please be aware that all Fond du Lac Tribal & Community College employees are required to report any incidents of sexual violence and, therefore it cannot guarantee the confidentiality of a report, but it will consider a request for confidentiality and respect it to the fullest extent possible. If you wish to report sexual misconduct or have questions about school policies and procedures regarding sexual misconduct, please contact Anita Hanson, Dean of Student Services, at 218-879-0805 or anita.hanson@fdltcc.edu.

Course Schedule

Readings and assignments are subject to change with at least 1 week notice.

First Half of Course

Week (Class Date)	Topic, Readings, Activities
1 (1/14)	Class introduction; Introduction to Geospatial Information
1 (1/16)	~~*Lab: Make a Story Map Tour with Esri Story Maps*~~ CLASS CANCELED
2 (1/23)	Intro to Geospatial Information continued *Lab: Make a Story Map Tour with Esri Story Maps*
3 (1/28)	*Lab work day*
3 (1/30)	**Story Map Tour Due** The Nature of Geospatial Information: Coordinate systems, data types, and attributes
4 (2/4)	Creating data: Digitizing and Wikimaps
4 (2/6)	*Lab: Digitize features in OpenStreetMap*
5 (2/11)	Creating data: Location Intelligence and GPS
5 (2/13)	**OpenStreetMap changesets due** *Lab: Gather observations with Collector for ArcGIS*
6 (2/20)	**Observation data due** Creating data: Remote Sensing
7 (2/25)	*Lab: NASA Earth Images*
7 (2/27)	NO CLASS – Carl at grant meeting
8 (3/4)	Exam Review
8 (3/6)	**Midterm Exam**

Second Half of Course

9 (3/18)	Remotely Sensed Imagery lecture
9 (3/20)	Remotely Sensed Imagery continued
10 (3/25)	Introduction to GIS lecture *Remotely Sensed Imagery Quiz*
10 (3/27)	Introduction to GIS continued
11 (4/1)	*Introduction to GIS Quiz* *Lab 5: Vector Analysis in QGIS*
11 (4/3)	*Lab work day*
12 (4/8)	**Lab 5 due** *Vector Analysis Quiz* *Lab 6: Raster Analysis in QGIS*
12 (4/10)	*Lab work day*
13 (4/15)	**Lab 6 due** Raster Analysis lecture
13 (4/17)	*Raster Analysis quiz* *Lab 7: Make a printed map in QGIS*
14 (4/22)	Cartographic Representation
14 (4/24)	*Lab work day*
15 (4/29)	**Lab 7 due** *Cartographic Representation quiz* *Lab 8: Make a web map*
15 (5/1)	Cartographic interaction Horizons and ethics (if there's time)
16 (5/6)	**Lab 8 due** *Cartographic interaction quiz* Exam review
T3 (5/13)	**Final Exam**