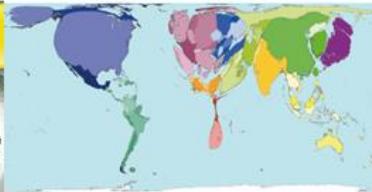




Geocaching



Data Analysis



Resource Management

GIS 151 Digital Earth - FALL 2017 CRN 22734

Time: online

Room: Center Building Room 455

Instructor: Lynn Songer

Office: Center 410 H

Office Hours: 1:30-2:30 M, 9:00-10:00 W, 2:00-3:00 T,TH, Friday by appointment

Description: Digital Earth is a computer-aided introduction to geospatial concepts. The class includes both lectures and hands-on computer labs to implement various geospatial technologies and explore fundamental concepts and theories in cultural and physical geography. Students will learn how spatial technology is woven into our daily lives and how technologies such as, Google Earth, Web-GIS, ArcGIS on line, and a desktop application are to address important social and resource needs. This course transfers to UO as GEOG 181 and OSU as GEOG 201. The course also meets the Oregon AAOT requirement for Social Science and Science Lab transfer credits. This course is the first in three GIS classes. The second class is GIS 245 (GIS I), the third class is GIS 246 (GIS II).

Course goals: After completing the class the student will be able to:

1. Understand elements of scale, location, and elevation that are necessary for solving social and resource problems such as crime analysis, resource management, and global health care.
2. Understand that data and emerging technologies being used to solve real-world problems.
3. Critique and create cartographic visualizations.
4. Use multiple methods to collect and display geospatial information.
5. Discuss ethical elements of geospatial data and its application and the impact on society of a digital earth.

Required text: I will provide the reading for this course as pdf files. The files will be loaded in Moodle.

You will need a copy of the 1967 Eugene East 7.5 minute topographic map. I will print copies for you to pickup in the social science office or you can download the pdf and have it printed at a local print shop. You will want a color copy. Kinko's will charge about \$24 for plane paper and about \$30 for heavy paper. You must use this map as the newer ones will give you incorrect answers on the quizzes and exam.

Materials: You will need:

1. A dedicated USB flash drive to backup and transfer your documents. I suggest at least two GB for this class. Students have had difficulty in the past with the Titan USB drives from the Book Store. While they may have resolved the problem, I would use a drive from a known manufacture. I have been happy with the Lexar, Scan Disk, and SeaGate, and Logitech.
2. For mac users, it is handy to have a usb mouse with three click options – right /left click.
3. A clear 6 inch or 12 inch decimal inch ruler.
4. A computer that can run windows operating system – PC or Mac with a dual boot and windows.
5. Access to an extra computer monitor will really change your life.

Computer: While there are open GIS lab times available for this class, students who have access to a computer with the ability to download and install software will have a strong advantage. Most of the programs are multi-platform.

In week six, we will begin to use Desktop GIS software. The software we will use in this class and in GIS 245 and GIS 246 is ArcGIS Desktop. The software operates on a Windows system – on a PC. Mac users can add the windows operating system to their macs and use ArcGIS, however in the past this has not always been successful. **BUT Don't Panic!**

For GIS 151 Fall 2017 only, I will offer alternative labs that will address the same concepts and/or develop lessons for GIS, using QGIS , which is multiplatform and can run on a Mac or a PC. However, if you plan to continue with GIS you will need to be able to use ArcGIS Desktop.

Additionally, if you are taking this as a distance student, you can come to the GIS lab during this class time or open hours to use the computers.

Accessibility and Accommodations: To request assistance or accommodations, contact the Center for Accessible Resources at [\(541\) 463-5150](tel:(541)463-5150) or accessiblresources@lanecc.edu. ([link sends e-mail](#))

Class structure: The GIS 151 class is designed as a lecture and laboratory class. Each class will be divided between lecture and lab time. There will be open times during the week where you can use the lab. All the software used in the class will be freely available for you to download on your home computers.

Labs: You will have a significant amount of time to complete most of the labs during the time set aside in class. All the software used in the class is free to download. Your skills and understanding will improve the more you work with the software. The labs are due at the time assigned for each lab. I will not accept late work.

Exam: Exam one will be a mix of essay, fill in the blank, multiple-choice, and applied skills. The exam is timed but open book and open note. The applied skill will be a career exploration and visualization using ArcGIS Online Story Maps.

Final Project: There is a final project that will be assigned in week 9. This is due at 8:00 Thursday December 8 and will be map creation based on data you find on the web.

Required drop: If you do not turn in Quiz 1 and the Student survey by 1 by noon on Friday, I will be required to drop you from the class.

Teaching methods: The class will be taught using a variety of pedagogical methods including: Lecture, videos, hands on application labs to reinforce concepts, small group discussion, and project presentations. The reading can be quite dense, so I will provide a study guide to help you focus on the major topics for this class. If you answer the questions on the study guide, you will be much more successful with the weekly timed quizzes.

Open lab times: You will have some access to the lab outside of class times. The lab will be staffed by student workers. They are there to maintain the lab and may be able to answer some of your questions

related to the lab assignments. Please do not expect them to be experts. If they are unable to help you with an assignment you can contact me through Moodle or come to my office hours.

Grades: Your grade will be based on the following:

Survey	1 @	10 pts	10	
Quizzes	9 @	10 pts	90	90% = A 80 - 89 % = B 70 - 79% = C 60 - 69% = D > 60 % = F
Labs	10 @	10 pts	100	
Exam	1 @	100 pts	100	
Project	1 @	50 pts	50	Pass/No Pass: Students earning less than 70 points will receive a No Pass

Extra credit: I don't offer extra credit activities as a rule. I have carefully designed the course to address specific learning goals. However, occasionally a student will turn in something that is extraordinary and I have been known to give extra credit points.

Late work and make up exams: I do not accept any late work. Make sure to start early in the week to give yourself time for those unexpected emergencies. I do not offer any makeup exams. I can make an exception if you have a medical emergency and provide a verified note from a medical professional.

Communication: It is important for you to have an email account that is active. I will send out announcements via Moodle. Do not assume that Lane has an active or correct email account for you. Additionally, make sure your email name is appropriate for a professional setting. Make sure to contact me in the Moodle Message site. I do not check regular email nor do I reliable receive student email at this site. I do check Moodle every work day to check for student messages.

Some email cautions: Email can sound rude, curt, snarky and short even when that is not the intention. Without body language and facial cues, it is easy to take a short abrupt email the wrong way. So here are some tips for better communication.

- 1) Use a greeting and closing – example: Morning Lynn, Thanks...
- 2) Avoid sarcasm – Give each other the benefit of the doubt.
- 3) Include your class - I am in GIS 151 TC (traditional class)

Planned Weekly Assignments – *Draft Labs May Change*

Week 1: All about maps

Reading: Map Types

Student Survey – Due Friday at Noon – Must submit to stay enrolled

Quiz 1 – Due Friday at Noon – Must submit to keep enrolled

Lab 1: ArcGIS Online – Jing Reference and Thematic Maps - Due Sunday 11:30PM

Week 2: Coordinates?

Reading: GCS UTM State Plane

Lab 2: GCS and UTM [Google Earth (GE)] - Due Sunday 11:30PM → ArcGIS Online

Quiz 2 – Friday at Noon

Week 3: Scale and projections

Reading: Scale and Projections

Lab 3: Scale and Projection Lab [Google Earth, Jing ArcGIS Online Story Map] - Due Sunday 11:30PM

Quiz 3: Friday at Noon

Week 4: Land partitioning

Reading: Land Division Systems

Thursday Lab 4: Land Division Systems [ArcGIS OL] - Due Sunday 11:30PM

Quiz 4: Friday at Noon

Week 5: Exam 1 – Data

Tuesday: **Exam One (Open Tuesday closes Wednesday) Week 5 material not on the exam.**

Reading GPS and GNS

Lab 5: Data Collection, Excel, CSV, conversions class. GE ArcGIS OL Due Sunday 11:30PM

Quiz 5: Sunday at 11:30 PM **Note change in time**

Week 6: Ethics and data

Reading: Ethics Dilemma, Data types, Cartographic Design

Lab 6: Desktop Basics: **QGIS or ArcGIS Desktop**

Quiz 6: Friday at Noon

Week 7: Elevation

Reading Relief Portrayal

Lab 7: Elevation and Relief Due Sunday 11:30PM QGIS or ArcGIS Desktop

Quiz 7: Friday at Noon

Week 8: Thematic maps: Qualitative

Reading Thematic Maps, Cartographic Design

Lab 8: Qualitative Maps QGIS or ArcGIS Desktop - Due Sunday 11:30PM

Quiz 8 is next week.

Week 9: Thematic Maps: Quantitative

Reading Thematic Maps

Lab 9: Quantitative Maps ArcGIS Desktop or QGIS- Due Sunday 11:30PM

Quiz 8& 9: Friday at Noon (as one 10 point quiz)

Week 10 Geoprocessing

Reading: Geoprocessing

Lab 10: Geoprocessing ArcGIS desktop or QGIS Due Friday Noon - Note **change in time**

Quiz 10: Friday at Noon

Week 11: Project Due

Thursday December 7 at 8:00 AM – Final Project Due

A note about student decorum: A successful learning environment requires that the classroom(stick-built and virtual) be a place where everyone – include the instructor – feels respected. In support of that effort,

we will adhere to the Lane Code of Conduct, which was developed to protect the individual rights of students and staff.

Code violations include but are not limited to:

- 1) Disruption or obstruction of teaching
- 2) Public intoxication
- 3) Acts of dishonesty such as cheating, plagiarism, patch writing
- 4) Verbal abuse
- 5) Sexual harassment

Things can get really frustrating in the lab- concepts that are difficult, software that is problematic, and life all have a way of increasing tension in the classroom. This is a great way to practice positive workplace behaviors – take a break and get a snack, walk outside, or you may need to call it a day and try again later. It happens. Please remember that your energy and attitude impacts learning for the better or

While every effort is made to ensure its accuracy, this syllabus is not an irrevocable contract and changes may occur as the class progresses. Sometimes in a term unanticipated events occur and we need to spend more time on a topic or go in a different direction to cover a new idea that comes up in class. If we have a major change, I will provide an updated syllabus with the changes reflected.