

Introduction to GIScience

LECTURE 1: WEEK 1

About Me

- ▶ Dr. Carolyn Fish
- ▶ Assistant Professor of Geography
- ▶ Email: cfish11@uoregon.edu
- ▶ Office Hours: 10-noon Wednesday or by appointment
- ▶ Office Location: 165 Condon Hall
- ▶ B.S. Penn State 2008
- ▶ M.S. Michigan State 2010
- ▶ Ph.D. Penn State 2018
- ▶ Between my M.S. and my Ph.D. I worked at Esri, oh and I also GPSed 20,000 street signs on a bike during that time too
- ▶ Research interests: how maps can and are used to convey information about important social and environmental topics such as climate change
- ▶ I teach courses on GIS and cartography
- ▶ I have a dog named Molo
- ▶ I just moved to Oregon
- ▶ I ride my bike to campus everyday
- ▶ I am currently fixing up a 1920s bungalow

Teaching Assistants

- ▶ Lou Ginart
- ▶ Master Student in Geography
- ▶ Email: lginart@uoregon.edu
- ▶ Office Hours: Mondays 2-4pm in SSIL



Teaching Assistants

- ▶ Weicheng Wang
- ▶ Master Student in Geography
- ▶ Email: wwang7@uoregon.edu
- ▶ Office Hours: Tuesdays 2-4pm in SSIL



Course Description

- ▶ Introduction to concepts behind organizing, analyzing, and visually presenting geospatial information. This class addresses three major questions:
 - ▶ How can one sense and represent the variation in the world around us?
 - ▶ How to record, recall, and analyze this information?
 - ▶ How to communicate and discuss this information with others?
- ▶ GIScience I explores these questions through the **applied** use of software designed to facilitate the **collection, analysis, symbolization, and communication** of information about the world; that is to turn observations of the real world into information useful for acting in the real world. This is often done with maps, and much of the work will involve the creation of maps.

Course Objectives

After completing this course, students should be able to:

- ▶ Plan and execute basic GIS analysis using a software application framework.
- ▶ Communicate the results of an analysis through language and graphics.
- ▶ Articulate the characteristics of and differences between data representations.
- ▶ Identify and critique choices that made in map design.
- ▶ Critically evaluate geospatial arguments in popular media.
- ▶ Develop skills in information-seeking.

Course Textbook & Readings

- ▶ *Geographic Information Science and Systems*, Fourth Edition (2015), by Longley, et al.
- ▶ Don't spend all your hard earned cash on the textbook, you can rent it from Amazon, you can get it at the library on course reserve
- ▶ *Supplemental reading will be available via links in schedule or the Canvas class site.*

Syllabus

- ▶ Handout
- ▶ Also available on Canvas

Where and When

Term: Spring 2019

Lecture: Tuesday & Thursday 9-9:50am in 221 MCK

Labs: Section 1: Monday 10:00-11:50 am

Section 2: Monday 12-1:50pm

Section 3: Tuesday 10:00-11:50 am

Section 4: Tuesday 12-1:50pm

442 McKenzie Hall- SSIL (Social Science Instructional Lab)

Attendance Policy

- ▶ Attendance is required.
- ▶ You have 3 grace absences. After that 1% point taken off final course grade for each additional absence
- ▶ For example, a student with a 78% in the course who has six absences would be penalized 3% and their grade will drop to 75%.
- ▶ This includes labs. Go to Lab!

I DON'T NEED TO KNOW

- ▶ We do not need to know why you missed class
 - ▶ You can sleep in
 - ▶ You can be sick
 - ▶ You can have a family emergency
 - ▶ You can go on vacation
- ▶ BUT I DON'T NEED TO KNOW ANY OF THAT
- ▶ I do not want to get very graphic emails about your illness
- ▶ I don't want to hear about how sorry you are for sleeping in
- ▶ Don't waste your 3 grace absences. Use them wisely.



When should you tell me

- ▶ When you have something major that means you will be missing a significant amount of coursework.
- ▶ Again, I don't need a ton of details

Grades

- ▶ 50% labs – 8 labs
- ▶ 40% exams- 2 exams (not cumulative)
- ▶ 10% in-class activities
 - ▶ These cannot be made up

“But... I have to miss the exam...”

- ▶ OK.
- ▶ You will get a different exam which is all essay.

Labs

- ▶ 8 labs which you work on during lab sessions in the SSIL labs upstairs with your GE
- ▶ Labs which are late are penalized 10% for each day late starting at 1 minute late
- ▶ You get a zero after 10 days late
- ▶ If you are handing in your lab late, you should not bug your GE during the next lab about it. Don't let one lab get you behind.
- ▶ If you need help. We all have office hours.

Student Responsibilities & Conduct

- ▶ The University Student Conduct Code is available to read at <https://dos.uoregon.edu/conduct>.

**IF YOU COULD GO AHEAD AND READ
THE SYLLABUS**

THAT'D BE GREAT

memegenerator.co

Course Schedule

About you...

- ▶ Fill out index card with:
 - ▶ Your name. Do you have a nickname?
 - ▶ Your major
 - ▶ Year in school
 - ▶ Do you work part time/full time?
 - ▶ What extra-curricular activities do you do?
 - ▶ What do you know about GIS?
 - ▶ What is your favorite map?
 - ▶ Is there anything else you would like me to know about you?

Grad students
come see me

What is GIS and GIScience?

- ▶ GIS: Geographic Information Systems
 - ▶ Geographic – relates to a specific place on or in relation to the Earth's surface
 - ▶ Information – is data to which some value or interpretation has been added. In GI, the information relates to measurements, maps, images, sounds etc. of the Earth's surface
 - ▶ Systems – a system designed to perform a wide range of functions on and with GI
- ▶ GIScience: Geographic Information **Science**- “The science of the systems” – Michael Goodchild

What does GIS help us do?

- ▶ Create maps for navigation
- ▶ Identify areas of vulnerability from flooding or other disasters
- ▶ Decide on site locations for a new housing development
- ▶ Predict landslides based on geomorphological processes
- ▶ Identify where to locate a store where it can be most useful to potential patrons
- ▶ Create historical maps by georeferencing old maps to current coordinates
- ▶ Identify the easiest path to traverse across an area

If we have time

- ▶ Take the academic integrity quiz on Canvas to open the course
- ▶ Otherwise...Do it on your own