Welcome to CSS 2!!

March 28, 2022

Today

1. Introductions
2. Course overview
   - Lecture & lab
   - Resources
   - Assignments & grades
   - Course material

Today

1. Introductions
2. Course overview
   - Lecture & lab
   - Resources
   - Assignments & grades
   - Course material

Erik Brockbank
ebrockbank@ucsd.edu

Office hours

9:00-10:00am Friday

2588 Mandler Hall

I'm here to help and support you!

Purva Kothari
pukothar@ucsd.edu

Office hours
TBD
1507 Mandler Hall

Who are you?

Name

Year and Major

Something you’re passionate about or like to do in spare time

Today

1. Introductions
2. Course overview
   - Lecture & lab
   - Resources
   - Assignments & grades
   - Course material

Course Overview

Lectures:

M / W / F, 8:00-8:50am

CENTR 222

Lab:

M, 11:00-11:50am

W, 9:00-9:50am

ERCA 117

Course Overview

This class is going to be an in-person adventure!

Course Overview

This class is going to be an in-person adventure!

If you need to miss a lab or lecture, shoot me an email ahead of time so we can figure out how to keep you on track!

Course Overview

This class is going to be an in-person adventure!

My commitments to you:

1. Health and safety come first
2. We will stay up to date with the latest UCSD policies
3. I will do everything I can to make this a supportive and successful learning environment!

Today

1. Introductions
2. Course overview
   - Lecture & lab
   - Resources
   - Assignments & grades
   - Course material

Course Overview

Resources

Course Overview

Resources

Course website: https://ucsd-css-002.github.io

📅 View syllabus, class schedule, policies

✍️ Download lecture notes, access other resources

UCSD CSS 2

Welcome to CSS 2

This course explores the use of computational methods across the social sciences. Topics include thinking like a computational social scientist; research design for big data; legal and ethical dimensions of Computational Social Science (CSS). Students will implement demonstrations of these methods in Python.

Course Overview

Resources

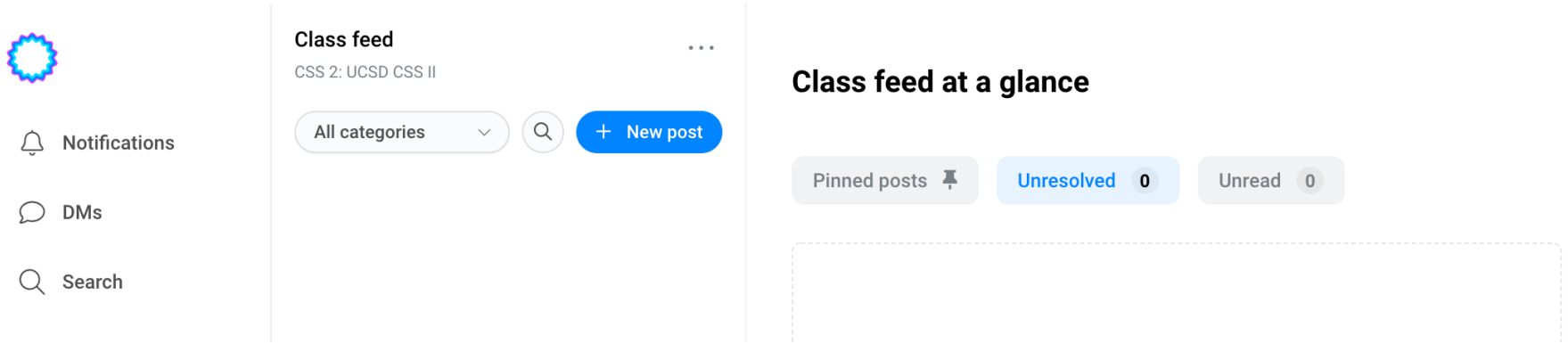
Campuswire: https://campuswire.com/p/GAEAAD197

Use code **2109** to join the course

🙋‍♀️ Ask questions about homework or labs

👋 View other students' questions and the answers they got

💪 Lend a hand by answering other students' questions!

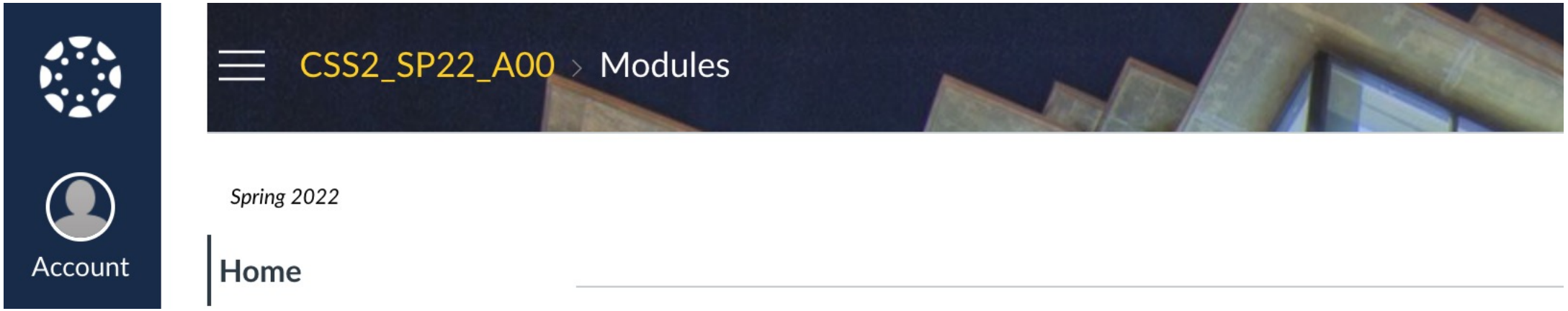


Course Overview

Resources

Canvas: https://canvas.ucsd.edu/courses/36054

💡 View grades



Course Overview

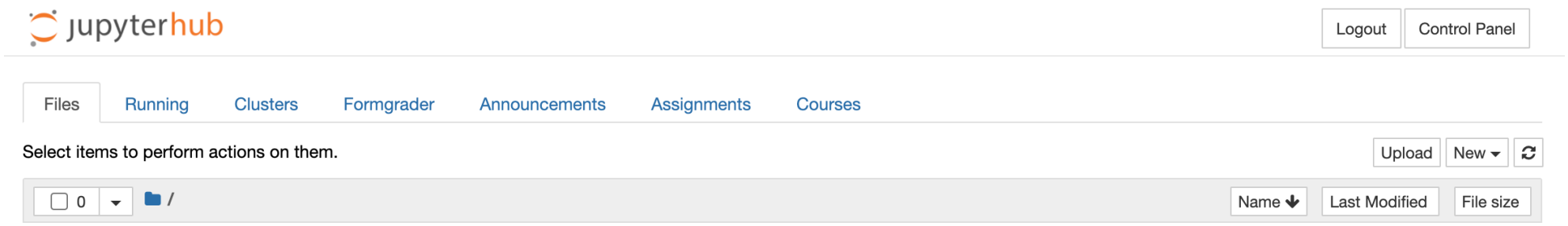
Resources

Datahub: https://datahub.ucsd.edu/

⌨️ View, work on, and submit problem sets and labs

🤖 Create new jupyter notebook files for taking notes

💯 View feedback from graded problem sets and labs



Today

1. Introductions
2. Course overview
   - Lecture & lab
   - Resources
   - Assignments & grades
   - Course material

Course Overview

Grades

Course Overview

Grades

- 40% weekly problem sets (weeks 2-9)
- 35% weekly lab exercises (weeks 1-10)
- 15% final project
- 10% participation

Course Overview

Grades

- 40% weekly problem sets (weeks 2-9)
- 35% weekly lab exercises (weeks 1-10)
- 15% final project
- 10% participation

Course Overview

Problem sets and labs

- Hosted on UCSD datahub
  - See https://ucsd-css-002.github.io/course/datahub.html

Course Overview

Problem sets and labs

- Hosted on UCSD datahub
  - See https://ucsd-css-002.github.io/course/datahub.html

- Labs
  - *Group work* meant to be finished during the lab
  - Due one week after lab in case you need more time to finish
- Purpose: practice the things demonstrated in lecture, teach and learn from your classmates (and Purva!)

Course Overview

Problem sets and labs

- Hosted on UCSD datahub
  - See https://ucsd-css-002.github.io/course/datahub.html

- Problem sets
  - *Individual work* meant to be completed outside of class
  - Due every Sunday (starting in week 2)
- Purpose: get comfortable doing the things you learned about in lecture and lab on your own

Course Overview

Grades

- 40% weekly problem sets (weeks 2-9)
- 35% weekly lab exercises (weeks 1-10)
- 15% final project
- 10% participation

Course Overview

Final project

See https://ucsd-css-002.github.io/course/final.html

Task: complete a large, well-motivated analysis of real-world data

Course Overview

Final project

See https://ucsd-css-002.github.io/course/final.html

Task: complete a large, well-motivated analysis of real-world data

Setup: work with a group of ~5 people

Course Overview

Final project

See https://ucsd-css-002.github.io/course/final.html

Task: complete a large, well-motivated analysis of real-world data

Setup: work with a group of ~5 people

Deliverable: a jupyter notebook with (a) a summary of your data incl. cleaning and formatting steps, (b) graphs showing key patterns in your data, (c) modeling and analysis of your data

Course Overview

Final project

See https://ucsd-css-002.github.io/course/final.html

Task: complete a large, well-motivated analysis of real-world data

Setup: work with a group of ~5 people

Deliverable: a jupyter notebook with (a) a summary of your data incl. cleaning and formatting steps, (b) graphs showing key patterns in your data, (c) modeling and analysis of your data

Goal: Use the tools we learn about in this class to explore patterns in a large, publicly available data set

Course Overview

Final project

See https://ucsd-css-002.github.io/course/final.html

Task: complete a large, well-motivated analysis of real-world data

Setup: work with a group of ~5 people

Deliverable: a jupyter notebook with (a) a summary of your data incl. cleaning and formatting steps, (b) graphs showing key patterns in your data, (c) modeling and analysis of your data

Goal: Use the tools we learn about in this class to explore patterns in a large, publicly available data set

Present in lab on 6/1, turn in final version by 6/8

Course Overview

Grades

- 40% weekly problem sets (weeks 2-9)
- 35% weekly lab exercises (weeks 1-10)
- 15% final project
- 10% participation

If you come to class and lab, do your best to answer questions, and ask if you're confused, you will get full participation points!

Today

1. Introductions
2. Course overview
   - Lecture & lab
   - Resources
   - Assignments & grades
   - Course material

Course Overview

Material

See https://ucsd-css-002.github.io/course/syllabus.html

Course Overview

Material

See https://ucsd-css-002.github.io/course/syllabus.html

Week 1

- Python review

IMPORTANT: if you're struggling with the review material this week, we will need to figure out how to get you up to speed!

Course Overview

Material

See https://ucsd-css-002.github.io/course/syllabus.html

Week 2

- Python tools for doing data science
  - numpy
  - pandas

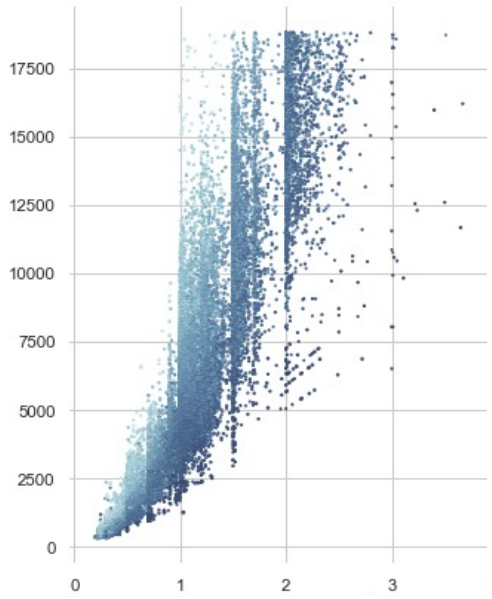
Course Overview

Material

See https://ucsd-css-002.github.io/course/syllabus.html

Week 3

- Python tools for graphing data
  - matplotlib
  - seaborn



NOTE: in week 3 we will have two ***guest lectures*** and one recorded lecture so things may be a little hectic!

Course Overview

Material

See https://ucsd-css-002.github.io/course/syllabus.html

Week 4

- Python data modeling fundamentals
  - cleaning and structuring your data
  - formatting and processing your data

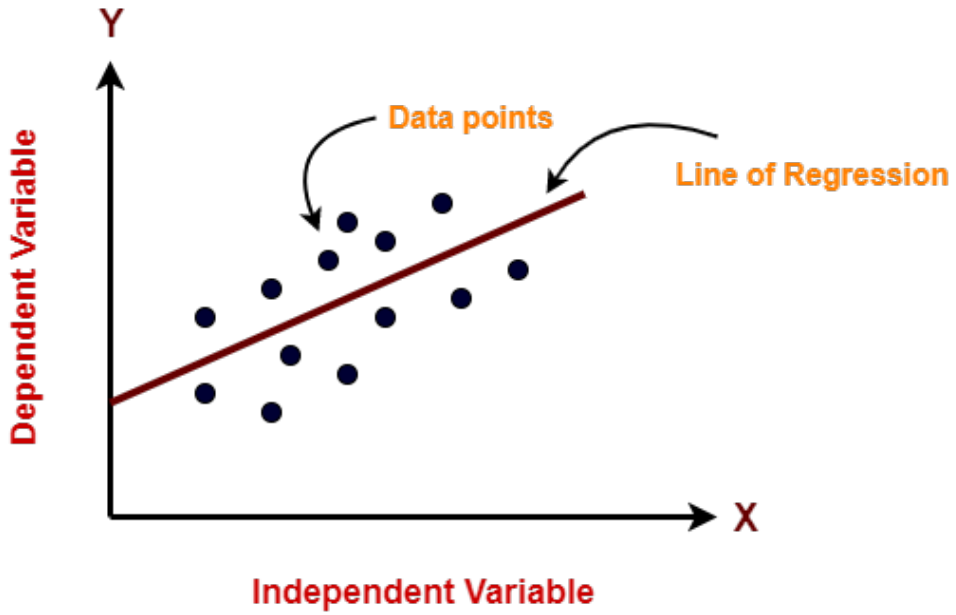
Course Overview

Material

See https://ucsd-css-002.github.io/course/syllabus.html

Week 5

- Using models to make *predictions*
  - linear regression and friends



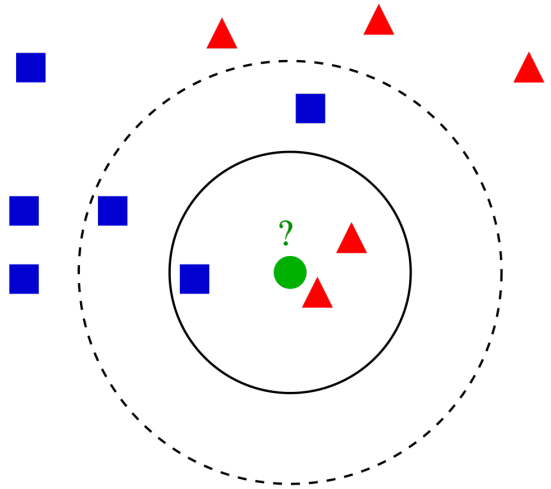
Course Overview

Material

See https://ucsd-css-002.github.io/course/syllabus.html

Week 6

- Using models to perform *classification*
  - k-nearest neighbors, logistic regression, and friends



Course Overview

Material

See https://ucsd-css-002.github.io/course/syllabus.html

Week 7

- Using models to perform *classification* cont'd.
- Special topic: ethics in data science

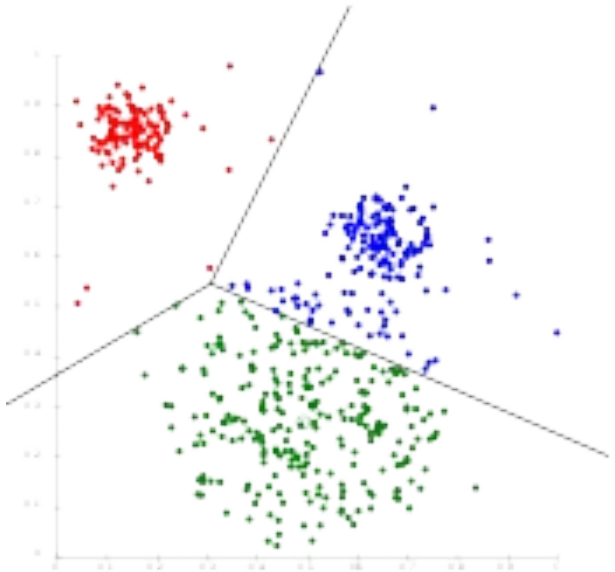
Course Overview

Material

See https://ucsd-css-002.github.io/course/syllabus.html

Week 8

- Using models to perform *clustering*
  - *supervised* versus *unsupervised* modeling
  - k-means clustering and friends



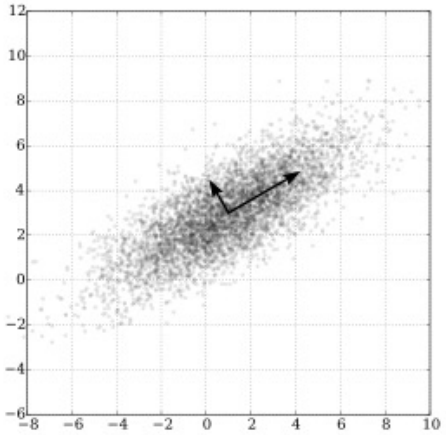
Course Overview

Material

See https://ucsd-css-002.github.io/course/syllabus.html

Week 9

- Using models to perform *dimensionality reduction*
  - principal components analysis and friends



Course Overview

Material

See https://ucsd-css-002.github.io/course/syllabus.html

Week 10

- Review
- Plus work on your final projects

Today

1. Introductions
2. Course overview
   - Lecture & lab
   - Resources
   - Assignments & grades
   - Course material

Questions?