intro

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outline

2 questions about yourself

- specific research interests? using any data yet?
- what do you expect from this class?

- (if another person similar to you and work together!)

bad math, good statistics?

- actually, i don't like math
- i never did, and I'll never will
- probably like most of you

- but i love statistics
  - (because it makes sense of the world; math doesn't)

- wheelan is the same, see book's intro

approach: applied, examples, hands-on

- you're encouraged to collaborate (prep for class, ps)
- free to choose topics/data

  (as long as there are any research methods!)
  - kill 2 birds with one stone:
  - ideally, bring your own data and analyze it,
  - or bring research done by others that interests you
  - don't worry, as long as you have any research interest
  - you'll find data and especially research about it
- we'll go over finding research and data sources
  - mostly just google scholar and google!
  - let's try it! `https://scholar.google.com/`

1st and 2nd half

- 1st half basics, and some math, go fast:
  - basics, data, theory, general
- 2nd half more application, focus on paper
  - after: more applied and specific topics
  - and more research oriented topics for the paper

recommended/extra/bonus

- only slides and assigned readings
  - (mostly Wheelan and Trochim, and what i say in the class!)
  - are required and tested/graded
  - but it will be easier to follow if you do additional readings (and they are fun, too)
  - $[*]$ = extra/bonus

grading/extra credit

- i will be strict about grade scale:
  - you get the grade that your interval indicates (see Sakai for your grade so far)
- but there is opportunity for extra credit, eg:
  - answer extra credit questions during the class
  - have an early presentation of your research
  - find typos/false statements in class materials
  - tell me about useful course materials: books, datasets, websites, etc
  - engage civically (see at the end of syllabus)

statistics is everywhere (Wheelan, 2013, ch1)

- statistics is everywhere
- we use it all the time
- it makes sense of, and simplifies world
- but also, it doesn't give the full picture; may mislead!
- eg grades: A, B, C, F; GPA, etc
  - some of the smartest people I know
  - are dropouts or get bad grades
  - largely because they cannot navigate the system (Tough, 2014)
- reverse is true as well: many educated are not so smart!

consumers, not producers :(

- we won't use statistical software
  - still will do some rudimentary calculations and research
  - if you are interested in doing research professionally
  - sign up for our PhD program!
  - `http://dppa.camden.rutgers.edu/degrees/phd/`
- and come to office hours to talk about Python
- if you plan to collect data, or use confidential data
  - like student scores, start early! it takes time to get it!!
  - and seek IRB: `https://orra.rutgers.edu/formsandtemplatesartsci`

wrap-up

- end every class discussing what we covered and quick look at next week
- end with a review Q&A,
- give some examples (essp in pub pol and pub adm) for concepts covered
- students will discuss concepts from the class
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- quick look at next class

bibliography I

Levitt, S. D. and S. J. Dubner (2010): Freakonomics, vol. 61, Sperling & Kupfer.

Tough, P. (2014): "Who Gets to Graduate?" New York Times.

Wheelan, C. (2013): Naked statistics: stripping the dread from the data, WW Norton & Company.