

Numbers and Social Justice (CMMU 30) ~ Summer Session 2, 2016

Professor: Andrea Steiner, PhD (policy analysis), MSG (G for gerontology)
Department: Community Studies
Class offered: Tu-Th 1-4:30 pm
Room: Physical Sciences Building, room 136

My office: Oakes 207
My contact info: steiner@ucsc.edu
Office hours: Tuesdays after class (by appointment) & Wednesdays 1-4 pm (my office at Oakes)

TA: Julianne Foxworthy
Contact info: jfoxwort@ucsc.edu
Office hours: To be announced

Syllabus

Welcome to *Numbers & Social Justice*, a lower-division elective offered by Community Studies. The following syllabus will guide our work during the quarter and give you a clear picture of my expectations.

Aims:

- To support social science and humanities students in developing a firm foundation in basic statistical reasoning -- i.e., the logics of numeracy -- and a clear appreciation of the power of sensible thinking about probability and uncertainty, as well as its limitations.
- To relate simple lessons of quantitative analysis to topical materials immediately relevant to social justice, social change, civic engagement, and social action.
- To encourage willingness to sort fact from fiction in a quantitatively informed manner.

Objectives:

By the end of this course, you will know how to:

- Do “back of the envelope math” – quick calculations that give you a *clear sense* of the realities you’re confronting in the world, whether examining income inequality, voters’ polls and survey results, the rate at which a virus is spreading (and where), or potential discrimination whether in employment, criminal justice, or access to health care;
- Roughly calculate (orders of magnitude [powers of 10], rounded estimates) quantities such as proportions, rates of change, means, standard deviations, and standard errors, and understand *when* and *why* these calculations will serve you;
- Accurately extract useful information from graphs and tables; and
- Pose appropriate questions in response to quantitatively framed claims, whether to debunk naïve assumptions or expose the flaws behind impressive-looking but bogus arguments.

You will also be able to:

- Relate theory to practice, and personal experience to both;
- Develop your listening and participation skills; and

- Think critically and creatively about how quantitative information is deployed in relation to social justice debates.

Expectations (including assignments and due dates):

In order to get the most out of this course, I ask you to

1. **Attend classes regularly, and arrive on time.** If this is a problem for you, come see me right away. Your attendance is crucial because (1) we meet only 10 times, (2) my teaching method is often interactive, so you can't do the learning without the dialogue, (3) there's a test (assignment, quiz, call it what you want but there's a grade) every Thursday.
2. **Ask questions *whenever you are unclear*.** For all of us, the beginning of learning is to acknowledge ignorance. It's an uncomfortable feeling (isn't it?) but it's crucial to become good at embracing the steeper parts of life's learning curves. I encourage you to frame your uncertainties or anxiety as "excitement," because it is also that. In this class, we are aiming for an atmosphere where learning can happen, and that means all questions are welcome. I promise, if you have a question then somebody else in the class is wondering the same thing. And, if you prefer one-on-one tutorial-style learning, you can also talk with me during office hours or with our TA Julianne.
3. **Keep up with the reading and come to class prepared.** That's important. Come with your questions and I'll make sure that everyone understands the material. Anyway, I will do my very best.
 - **Once per person: Numbers in the News.** On the first day of class, you'll each take responsibility for bringing a justice-relevant, chart-using or stats-quoting or study-describing article from a reputable news source to class. I'll ask you to summarize it in about 5 short minutes, including any questions you have about what's presented, challenges you'd make, or important points you'd emphasize. Then we'll take another 5 minutes or so to review it... Or I may go at this a different way (small groups) but the point is: You'll be responsible for doing this once during the course, and collectively we'll have an hour per class to spend on this subject. It will count for 5% of your total grade.
4. **In weeks 1-4, complete a weekly (Thursday) assignment in class – a cross between homework and a quiz.** The assignments will be based on material presented right up to the moment of the exam. Each week will emphasize that specific week's work, but some questions will reflect previous lessons, so your demonstrated knowledge will be cumulative. Sometimes I'll ask you to bring something in that you'll work with as part of the quiz. Each Thursday assignment is worth 15% of your grade, for a total of 60%.
5. **In place of a final exam, complete a group project.** Working in small groups –or if you strongly prefer, solo or in a pair-- you will take a social justice issue and collectively present the following (pretty structured) analysis to the rest of the class:
 - What is the issue, and what makes it a "social justice" issue? → To cover this, you'll have to present certain numbers in a contextualized, meaningful way.
 - Where does the quantitative information we need to understand this issue come from, and what does it say? → This will involve identifying key sources, considering their

credibility and biases, explaining the *type* of research that produced the information, and summarizing the key findings.

- What is your assessment of the way/s that government agencies, popular media, alternative (critical) media, and/or scholars have framed the issue → Show graphics, headlines, media clips, direct quotes.
- How would *you* frame the issue, using quantitative methods? → You may also use qualitative methods as a complement, but not as a substitute.
- In sum, use your numeracy skills to confront a social justice issue from both hegemonic and counter-hegemonic perspectives, the better to understand *what* most consumers are getting –for better or for worse—and *how best* to interpret it.

Throughout summer session you'll have some time to meet during class, but you'll also have to connect outside of class to get it done. Each group will have about 25 minutes (this number may change depending on how many people are in the class and how many groups we form); presentations will take place on Tuesday and Thursday of week 5.

In addition to presenting, each unit will turn in a compiled document that specifies:

- Who did what
- Three take-home messages for each student's contribution
- Source list in APA format → You will lose points for incorrect citation format
- Supplemental materials as desired → Links, tables or figures, etc.

This final assignment is worth 30% of your grade: 20% for the class presentation, 10% for the written materials.

6. **Conduct yourself with academic integrity and honesty.** The university has strong policies about academic misconduct, and so do I. Much of our work is collaborative; some is not. If I catch you cheating, you will fail the relevant assignment, very possibly fail the course, and equally possibly I will start the formal procedures that the university stipulates. If you have any questions at all about what constitutes cheating or plagiarism, there is no shame in that; for clarification, see http://www.ucsc.edu/academics/academic_integrity/index.html, where the 18th century thinker Samuel Johnson is quoted as saying: "Knowledge without integrity is dangerous and dreadful." The UC statement goes on to read, "Academic misconduct includes but is not limited to cheating, fabrication, plagiarism, or facilitating academic dishonesty or as further specified in campus regulations." You can also come and check with me.

Bottom line: it is your responsibility —and, I hope, your joy-- to learn for yourself by doing your own work. If you're concerned about your performance, come see me and we'll make a plan to help you earn your best possible grade. Don't get yourself into a desperate situation; communicate, please!

7. **Let me know right away if you are registered with the Disability Resource Center**, so we can ensure that your need for accommodations will be satisfied.

Grading and evaluation

Please, don't get hung up on them. Steady A's don't mean you couldn't improve, and an early C or D doesn't mean you won't end up doing fine. I look at progress and growth as well as basic performance. I'll give you a lot of feedback along the way, because I want you to take that feedback into account and use it to improve your critical thinking and writing. I'm happy to work closely with you, so please don't be shy about asking for support. Here is the breakdown of how I'll grade your work:

- **Lecture attendance, combined with participation, including "Numbers in the News" – 10% (5% for Numbers in the News assignment, 5% for overall presence participation).** Anyone who misses more than one class may not pass. "I'm busy with other courses" is not a legitimate excuse. In terms of participation, I'll consider (1) evidence that you're coming to class prepared, (2) your perceptive questions and comments, and (3) your engaged, respectful listening to and interacting with classmates.
- **Thursday class assignments – 15% x 4 = 60%.** I'll grade these according to the accuracy of responses, clarity of expression, and understanding of key concepts and why they matter.
- **Final project – 30% (20% presentation, 10% companion materials).** I'll evaluate your presentations for their clarity, even-handedness, perceptiveness, accuracy, and –as appropriate—creativity. I'll also look at your team-working skills, i.e. the quality of the collaboration as demonstrated by the overall functioning of the group *as a group*. I'll assess the written report/companion packets for its grammatical accuracy and style as well as the intellectual taste you show in selecting appropriate materials for inclusion and in the way you point out the relevance of each included item.

Required Reading

- **A course reader, on sale downtown at The Literary Guillotine, 204 Locust Street, 457-1195.** It features a large dose of a good statistics text (yes, they exist), Moore & Notz's *Statistics: Concepts & Controversies*. It's a quackable title and a physically unpleasant book to hold, but the information's clear and relevant to our work. I find it very accessible. The other book we'll read a fair amount of is the amazing *Who Counts? The Mathematics of Death & Life after Genocide*, by Diane M. Nelson; very different take on the subject.

Course Outline, by week

(How to read this: The reading is listed under the week that it's due. If for a specific day of the week, that's noted; otherwise please be ready for Tuesday. Remember, in the first four weeks there will be some "Numbers in the News" presentations each day, and a graded in-class assignment every Thursday. You'll do final presentations during week 5.)

Week One (July 26, 28)

Introductions / Reading and translating math / Numeracy as a social justice issue / Double consciousness

Reading for Thursday:

- Hacker, Andrew. (2016) The wrong way to teach math. *The New York Times*, February 28, 2016. **R-1**
- Moore, D.S. and Notz, W.I. (2009) Prelude: Making sense of statistics. In *Statistics: Concepts and Controversies (7th edition)*. New York: Freeman & Co. **R-2-7**

And two critical perspectives, one on the politics underpinning the depiction of information (well, both do this, really) and the other a more historical analysis (and an example of what Farmer recommends:

- Farmer, Paul. (1996) Social inequalities and emerging infectious diseases. *Emerging Infectious Diseases*, vol. 2, no. 4, pp. 259-269. **R-8-18**
- Davis, Lennard J. (1995) Constructing normalcy: The bell curve, the novel, and the invention of the disabled body in the nineteenth century. Chapter 1 in *Enforcing Normalcy*. London, New York: Verso Publishers. **R-19-32**

DUE NEXT WEEK: Numbers in the News, as assigned. Quiz Thursday.

Week Two (August 2, 4)

Measuring:

Reliability, validity, denominators // Rates of change

Reading for this week:

- Moore & Notz, Chapter 8: Measuring; Chapter 9: Do the Numbers Make Sense? **R-33-58**
- Shaw, Randy. (2015) How statistics on crime, housing can mislead. *Beyondchron.com*, posted March 17, 2015. **R-59-61**
- Kolata, G. and Cohen, S. (2016) Drug overdoses propel rise in mortality rates of young whites. *The New York Times*, January 16, 2016. **R-62-65**
- Tavernise, Sabrina. (2016) Disparity in life spans of the rich and the poor is growing. *The New York Times*, February 12, 2016. **R-66-69**

DUE NEXT WEEK: Numbers in the News, as assigned. Quiz Thursday.

Week Three (August 9,11)
Counting:
Censuses, polls, surveys // Samples and populations // Bias

Guest speaker on Tuesday: Jamie Epstein, queer and sexual health activist

Reading for this week:

- Moore & Notz, Chapters 1 (Where do data come from?), 2 (excerpt from Samples, good and bad), 3 (What do samples tell us?), and 4 (Sample surveys in the real world). **R-70-116**
- Miller, Claire Cain. (2015) The search for the best estimate of the transgender population. *The New York Times*, June 8, 2015. **R-117-121**
- At least one of the electoral politics articles posted on eCommons under Resources
- Nelson, Diane M. (2015) Bookkeeping. Chapter "0" in *Who Counts? The Mathematics of Death and Life after Genocide*. Durham & London: Duke University Press. **R-122-135**
- Ha'aretz (2013) Holocaust facts: Where does the figure of 6 million victims come from? *Ha'aretz Magazine*. August 11, 2013. **R-136-138**

Optional, posted on eCommons under Resources: Highly recommended but comes with a trigger warning (very difficult subject, written about in a way that makes you feel it)

- Nelson, Chapter 1: Before and After-Math. *Who Counts?*

DUE NEXT WEEK: Numbers in the News, as assigned. Quiz Thursday.

Week Four (August 16,18)
Showing: Graphical representation of data, good and bad //
Interpreting: Hegemony and counter-hegemonies

Reading for this week:

- Moore & Notz. Chapter 10: Graphs, good and bad. **R-139-153**
- Gargani, John. (2012) Should the pie chart be retired? Evalblog.com, posted 2.13.12. **R-154-159**
- Leek, Jeff. (2012) The statisticians at Fox News use classic and novel graphical techniques to lead with data. SimplyStatistics.org (blog), posted 11.26.12. **R-160-164**
- Gargani, John. (2012) Tragic graphic: the Wall Street Journal lies with statistics? Evalblog.com, posted 1.23.12. **R-165-172**

And, on a different set of representation issues:

- Nelson, Chapter 6: A Life's Worth. In *Who Counts?* This chapter is about the role of mining in Guatemala... and of capitalism in the global economy. **R-173-192**

DUE NEXT WEEK: Presentations and supplemental materials.

Week Five (August 23, 25)
Reading, Translating, Measuring, Counting, and Interpreting:
It's Your Turn!
// And, Wrapping Up

STUDENT PRESENTATIONS (Remember to hand in your supplemental materials)

No new reading

AND THAT'S THE COURSE

THANKS