

Math 107

Welcome & Intro to Statistics

Notecard

Make me a flashcard so I can get to know you better

- Your name
- A couple facts about yourself
- Your last math/stats course
- Did you take AP (or another intro) stats?
- Do you have a laptop that you can bring to class?

Campaign Expenditures

The Data

- 2016 presidential election independent expenditures reported to the FEC.
- Independent expenditures: “spending by individual people, groups, political committees, corporations or unions expressly advocating the election or defeat of clearly identified federal candidates.”
- Information: who was paid, purpose, date, amount, for/against whom

What questions might
we ask this data set?

How do these questions
guide our analysis?

Syllabus

Prerequisites

- High school algebra
- Sophomore standing

math107-lu.github.io

- Check website regularly for updates
- Lecture outlines (when needed) will be posted the day before each class.

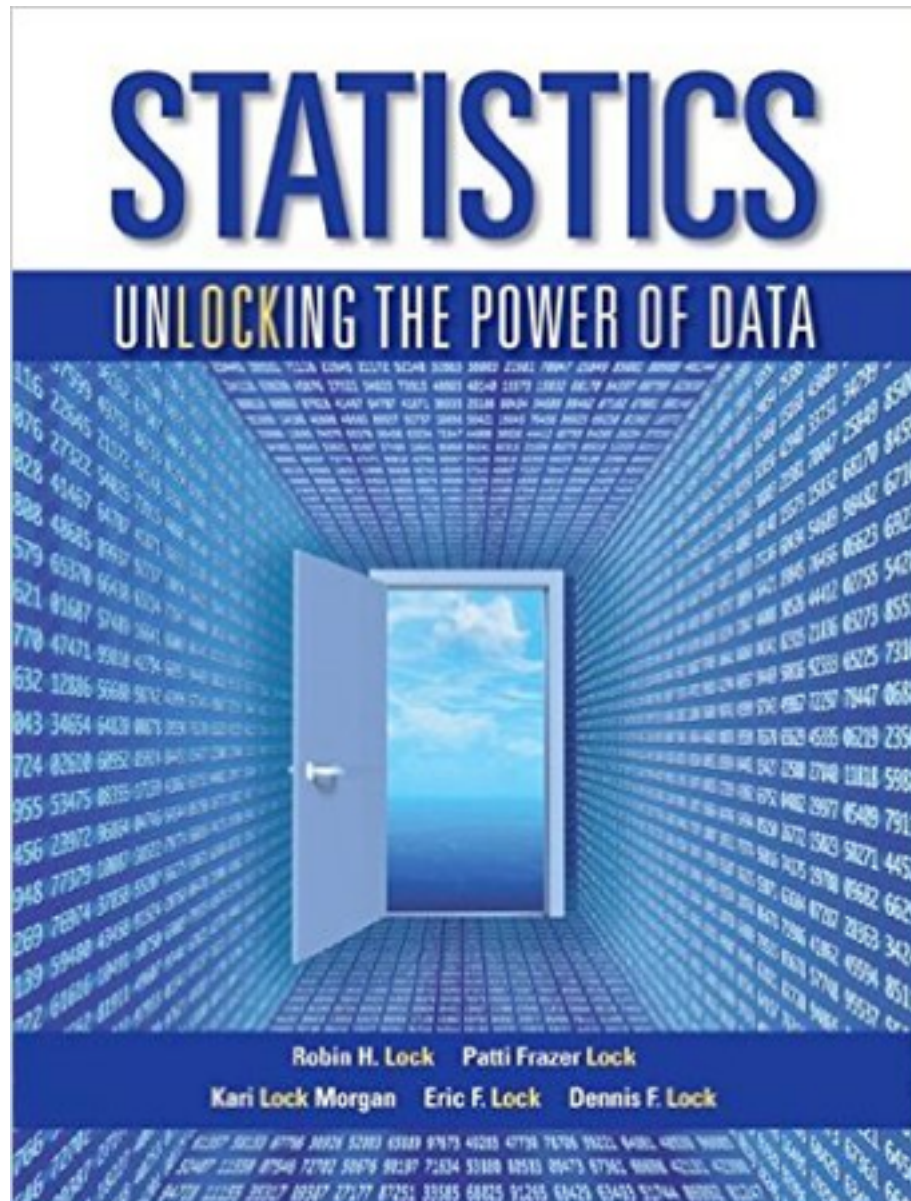
Piazza

- Question-and-answer system designed to streamline class discussion outside of the classroom
- Great first place to ask about the course, lecture/reading, or the assignments.

Moodle

- Check your grades
- Take reading quizzes
- Find extra readings

Textbook



Required

Statistics: Unlocking the Power of Data,
Lock et al., 2013, John Wiley & Sons,
ISBN 978-0-470-60187-7.

Homework

- Assignments let you practice what we covered in class.
- Assigned on Mondays (due Fridays by 4 pm) and Fridays (due Tuesdays by 4 pm).
- No late work will be accepted.
- 25% of grade. Lowest two dropped.
- Exceptionally messy, hard to read, or unstapled homework will receive a 20% penalty. This penalty can be lifted by turning in a cleanly written copy, or a photo of you holding a stapler.

Homework Grading Scale

Points	Characteristics
5	Almost all problems are essentially correct with no major conceptual flaws. There may be some minor errors or calculation mistakes.
4	One problem is incomplete or contains a major conceptual flaw, but most problems are essentially correct. There may also be some minor errors or calculation mistakes.
3	At least two problems are incomplete or contain a major conceptual flaw, but most problems are essentially correct. There may also be some minor errors or calculation mistakes.
2	More than half the problems are incomplete or contain a major conceptual flaw, but there is evidence that the student made a serious attempt to solve most problems. Some parts of some problems are correct.
1	The assignment shows little progress toward a correct solution on any problem, but there is evidence that some serious effort was put forth on at least one problem.
0	The assignment is not turned in or contains no evidence of serious effort on any problem.

Quizzes

- Most class days there will be a reading quiz due by 9:00 am (Moodle)
- Reading quizzes will be announced in class
- There may be in-class quizzes
- 5% of your grade

Case Studies

- There will be periodic in-class “case studies” allowing you to actively explore the topics
- Completed in groups that I will assign
- 5% of grade

Exams + Final

- Two midterm exams and a final exam
- Tentative dates:
 - Exam 1 – April 18
 - Exam 2 – May 11
- Final exam – Tuesday, June 7 at 8am

Final Grade

Maximum of the following two weighting schemes

Component	Scheme 1	Scheme 2
Quizzes	5%	5%
Classwork	5%	5%
Homework	25%	25%
Exam 1	10%	20%
Exam 2	20%	20%
Final	35%	25%
Total	100%	100%

Honor Code

You may collaborate on homework but you must submit your own assignment that reflects your own thinking, work and organization.

To check if your homework meets this standard, imagine I asked you to explain your reasoning for each problem—you should be able to do so with ease.

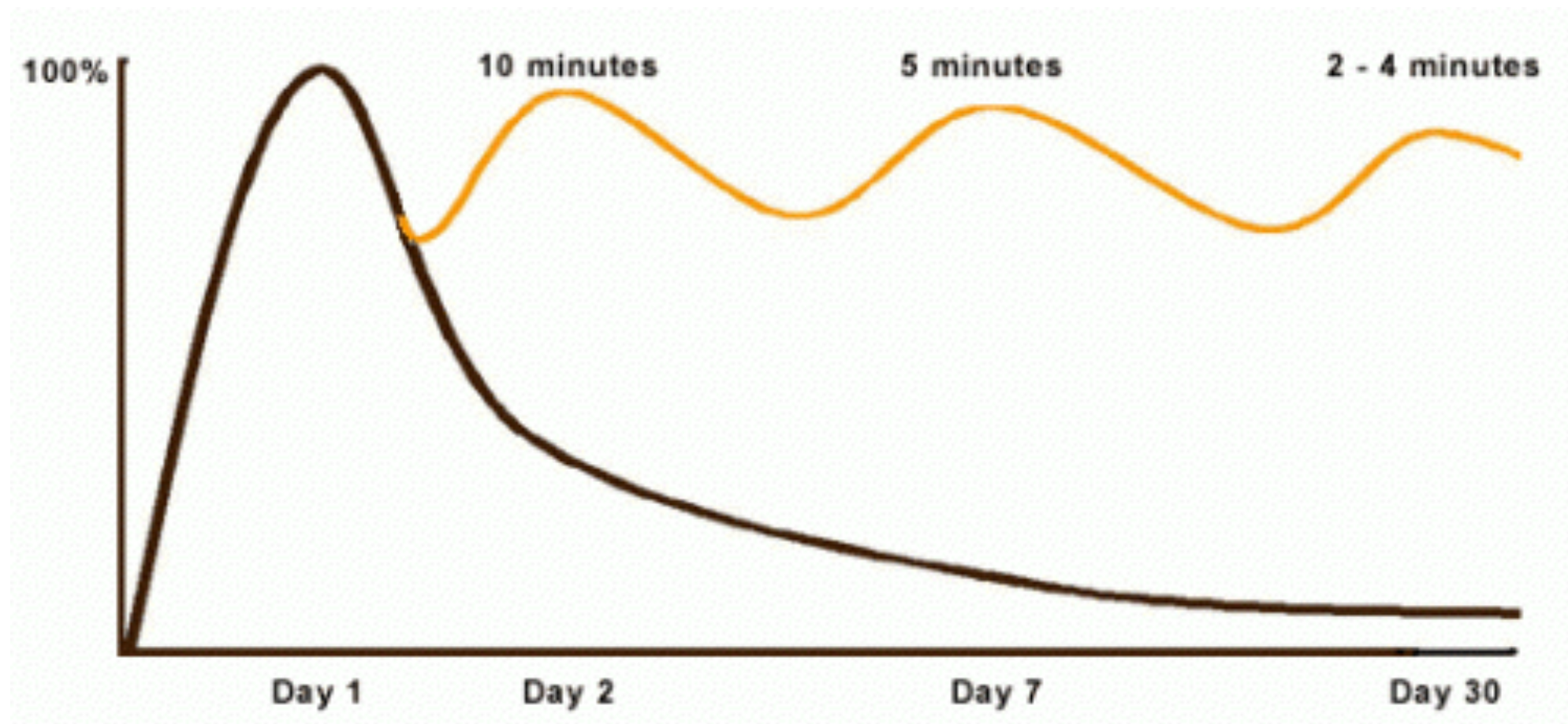
All assignments are considered to be pledged to this standard.

Office Hours

- My office is 410 Briggs, x6894
- Office hours:
 - MF 11:10am–12:20pm
 - MT 3:00–4:00pm
 - W 3:00–4:30pm
 - and by appointment

Computing

- Modern statistics relies on the use of computers.
- We will use the statistical language R to achieve our computational goals in this course.
- R is a command line program—it may seem confusing at first, but hang in there.
- Install R and RStudio today so that you can resolve any issues before you need it for an assignment.



By day 2, if you have done nothing with the information you learned in that lecture, didn't think about it again, read it again, etc. **you will have lost 50%-80% of what you learned.** Our brains are constantly recording information on a temporary basis: scraps of conversation heard on the sidewalk, what the person in front of you is wearing. Because the information isn't necessary, and it doesn't come up again, our brains dump it all off, along with what was learned in the lecture that you actually do want to hold on to!

By day 7, we remember even less, and by day 30, we retain about 2%-3% of the original hour! This nicely coincides with midterm exams, and may account for feeling as if you've never seen this before in your life when you're studying for exams - you may need to actually re-learn it from scratch.