Data Bootcamp: Syllabus

Revised: December 15, 2015

Rough draft.

Overview

Data Bootcamp is about nuts and bolts data analysis. You will learn about economic, financial, and business data, and enough about computer programming to work with it effectively. Applications include some or all of: leading economic indicators; emerging market country indicators; bond and equity returns; stock options; income by zip code; long tail sales data; innovation diffusion curves; and many others. We will use Python, a popular high-level computer language that's widely used in finance, consulting, technology, and other parts of the business world. "High-level" means it's less painful than most (the hard work is done by the language), but it's a serious language with extensive capabilities. "Data analysis" means primarily graphical descriptions that summarize the data in ways that are helpful and informative. "Bootcamp" is a reminder that expertise takes work. Don't worry, it's worth it.

There are two sections of this course, one for undergrads (ECON-UB.0232) and one for MBA students (ECON-GB.2313). The content is similar, but the schedules and teaching teams are different. See the course website for details.

Requirements

There are no prerequisites. We welcome students with no prior programming experience and have designed the course with them in mind. What you will need is the courage and patience to fix computer programs that don't work. That's a regular occurrence, even for experts; we will show you how to work your way through it.

Our one requirement is that **you must bring a laptop computer to class**. It should be your own computer, or at least one you can install new programs on. We will use it constantly in class, writing and correcting (mostly short) programs.

Course website & discussion groups

Eveything you need for the course, including this document, will be posted on the course website (?? fix link when it's set up):

https://github.com/DaveBackus/Data_Bootcamp#data-bootcamp.

An essential part of this is a google group.

Deliverables and grades

The first half of the course is an introduction to computer programming using the Python programming language. We focus on those features of Python most useful to data analysis. The work is front loaded, with three assignments and a quiz in the first seven weeks. We think you should do all three assignments — they're good practice — but your grade will be based only on the best two. The logic behind this plan is to get everyone up to speed quickly by doing a little work all the time rather than lots of work once in a while.

The quiz will take 75 minutes. You can bring one page of notes, standard letter paper, both sides, with anything on it you like. This will save you from having to memorize things. It's also a good study tool: when you decide what to include, you'll be organizing your thoughts about what you've learned.

The second half of the course is devoted to special topics and a project. Our goal here is for you to have a piece of work you can show potential employers to illustrate your skill set. We build up to a project one step at a time, starting with idea generation and ending with a professional piece of data collection and analysis. The structure of the project is laid out in a separate document.

Assignments, whether code practice or parts of the project, are due at the start of class on the specified dates. **Due dates are not negotiable.** Anything handed in late will get a grade of zero.

Your final grade will be computed from

Assignments (best two of three)	30%
Quiz	20%
Project	50%

Final grades are not subject to any fixed distribution. The number of A grades, for example, will depend only on your performance in the course. If you make a good-faith effort, we expect it to be hard to get less than a B. We will be the sole judges of what constitutes good-faith effort.

Due dates

Due dates for assignments are posted on the course website. **Dates are firm and not open to negotiation.**

If you have questions

You can find answers to common questions on the course website. For others, email Dave Backus at db3@nyu.edu.

Policies

Ethics, disabilities, and many other things are governed by NYU and Stern policies. If you have questions about them, please ask.

On graded work: You may discuss assignments with anyone (in fact, we encourage it), but anything you submit, including your code, should be your own. Quizzes should be entirely your own work.

On disabilities: If you have a qualified disability that requires academic accommodation, please contact the Moses Center for Students with Disabilities (CSD, 212-998-4980) and ask them to send me a letter verifying your registration and outlining the accommodation they recommend. If you need to take an exam at the CSD, you must submit a completed Exam Accommodations Form to them at least one week prior to the scheduled exam time to be assured accommodation.