Data Bootcamp: Syllabus

Revised: December 17, 2015

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/blob/master/Markdown/bootcamp_mainpage.md.

We will not use NYU Classes.

We have set up **Google groups** to organize questions and discussion. If you have coding questions, you can post them there. If you know the answer, you can post that, too. The links are

MBA: https://groups.google.com/forum/#!forum/nyu_data_bootcamp_mba
UG: https://groups.google.com/forum/#!forum/nyu_data_bootcamp_ug

Follow the instructions to join under whatever email address you intend to use.

Work and grades

The course divides naturally into two parts. The first part is an introduction to those aspects of the Python programming language useful for data analysis. The second half covers advanced topics and the development of your own project. The goal is for you to have a piece of work you can show potential employers to illustrate your quantitative skill set. Both halves include a number of graded deliverables. The idea is to **do a little work all the time rather than lots of work once in a while.**

Graded work includes:

- **Code Practice.** There are three such assignments in the first month. We encourage you do to all of them — they're good practice — but your grade will be based on the best two. We will also distribute Optional Code Practice "assignments," but they will not be collected or graded.
- **Quiz.** The quiz will cover the Python material from the first half of the course. It take 75 minutes and will be held in class. 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.
- **Project.** We work our way 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.

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

We expect all of your work to be clean and professional.

Final grades will be computed from

Code Practice (best two of three)	25%
Quiz	25%
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.

If you have questions

You can find answers to common questions on the course website. You can also post questions on the discussion group; see the link above and on the course website. For others, email Dave Backus at db3@nyu.edu or see the contact information for co-teachers and teaching fellows on the course website.

Viewing and printing pdf files

This document and most others in the course are pdf's that we hand out in class and post on GitHub. If you view them online, the links won't work; that's an unfortunate feature of GitHub's pdf viewer. You should instead download them to your own computer and open them there. To download them, click on the Raw button above and to the right of the document. To view them, use Adobe Acrobat Reader or the equivalent (FoxIt, Sumatra, etc). The links should then work.

For Mac OS users, Preview has this problem and others; for example, some fonts don't display or print. The solution is to install Adobe Acrobat Reader or the equivalent and set it up as your default for pdf files.

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.