Fundamentals of Programming/Coding for Human(s|ists)

Course Syllabus

Digital Humanities Summer Institute
University of Victoria – June 11th to 15th, 2018

The class outline is not finalized and will most likely change before Day 1. The most up-to-date version of the course outline can be found on the course website at https://github.com/ComputeCanada/dhsi-coding-fundamentals-2018.

Instructors:

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Course Description:

This course is intended for humanities-based researchers who do not have a programming background but would like to understand how programs work "behind the scenes." Over the week, the emphasis will be on understanding how computer programmers think so that participants will be able to participate in high-level conceptual discussions with more confidence. These general concepts will be reinforced and illustrated with hands-on development of simple programs that can be used to assist with text-based research and analysis. Participants will work on larger projects of their own choosing for about a day and a half at the end of the course.

The programming language used for most of the course will be Python. Python has an easy-to-learn and gentle syntax, and powerful extensions. Use of the command-line interface and regular expressions will also be demonstrated and emphasized.

Course Website -- https://github.com/ComputeCanada/dhsi-coding-fundamentals-2018

Learning Outcomes:

You should walk away from this course with the following knowledge:

- Using the command line to automate tasks, manage files and folders, and run scripts.
- Installing and accessing Python via multiple platforms.
- Learn to write psuedocode to map out your program.
- Understanding of the Python 3.x programming language, including the ability to write simple scripts.

Preparation for the Course:

Please bring your own laptop ("own" as in you have administrator rights to install software on it in addition to however else "own" is usually understood) so that you can leave the course with the appropriate software installed and an environment that you are ready to begin working in.

This said, our class will be held in a computer lab, where you will have access to iMacs with all the proper software installed. We will use these machines to provide a uniform experience for the first day and a half of the course and for anyone who is not able to bring or use their own laptop.

Those choosing to use their own laptop should attempt to install the following software in advance:

- **Windows users** will need to have software installed that will allow them to access the command line. We recommend downloading MobaXterm, if you do not already have it. You can download a free version of this software at http://mobaxterm.mobatek.net/download.html.

- **Windows, Mac, and Linux users** will need to install Anaconda. Anaconda is a data science platform for Python. By installing Anaconda, you won't need to install Python separately. You can download a free version of Anaconda at https://www.continuum.io/downloads. Please make sure to download the version 5.1 (or greater) of Anaconda that is offering Python 3.6 (or greater).

The textbook for the course will be the 2nd Edition of *Think Python: How to Think Like a Computer Scientist*, version 2.2.20. You can download a free version of this textbook at http://greenteapress.com/thinkpython2/thinkpython2.pdf. The textbook will also be included in the coursepak.

Schedule:

Day 1 – June 5th:

7:45am to 8:15am – Last minute registration for DHSI (MacLaurin Building)
8:30am to 10:00am – Welcome, Orientation, and Instructor Overview (MacLaurin A144)
10:15am to 12:00pm – Class – ***An Introduction to the Command Line*** (1 hour, 45 mins)
12:15pm to 1:15pm – Lunch break / Unconference Coordination Session (MacLaurin A144); DHSI Undergraduate Meet-up, Brown-Bag (details via email)
1:30pm to 4:00pm – Class – ***An Introduction to the Command Line*** (2 hours, 30 mins)
4:10pm to 5:00pm – Joint Institute Lecture (DHSI and SINM): Jordan Abel (Simon Fraser U): "Indigeneity, Conceptualism, and the Borders of DH." (MacLaurin A144)
5:00pm to 6:00pm – Opening Reception (University Club)

Day 2 – June 6th:

9:00am to 12:00pm – Class – ***Python Part I – Basic Features and Syntax*** (3 hours)
12:15pm to 1:15pm – Lunch break / Unconference; "Mystery" Lunches
1:30pm to 4:00pm – Class – ***Python Part I (con't) and Pseudocode and Commenting*** (2 hours, 30 mins)
4:15pm to 5:15pm – DHSI Colloquium Session 4 (MacLaurin A144)
6:00pm to 8:00pm – DHSI Newcomer's Beer-B-Q (Grad Club)

Day 3 – June 7th:

9:00am to 12:00pm – Class – ***Python Part II – Real-world Examples and a Workbench*** (3 hours)
12:15pm to 1:15pm – Lunch break / Unconference; "Mystery" Lunches
1:30pm to 4:00pm – Class – ***Python Part II (con't) and Individual Project Planning*** (2 hours, 30 mins)
4:15pm to 5:15pm – DHSI Colloquium Session 5 (MacLaurin A144)
6:00pm to 7:00pm – "Half Way There!" Birds of a Feather Get-Together (Felicitas, SUB)

Day 4 – June 8th:

9:00am to 12:00pm – Class –***Getting Help and Individual Project Work*** (3 hours)
12:15pm to 1:15pm – Lunch break / Unconference; "Mystery" Lunches
1:30pm to 4:00pm – Class – ***Individual Project Work*** (2 hours, 30 mins)
4:15pm to 5:15pm – DHSI Colloquium Session 6 (MacLaurin A144)
7:30pm to 9:30pm – (Groovier?) Movie Night (MacLaurin A144)

Day 5 – June 9th:

9:00am to 12:00pm – Class – ***Individual Project Work and Final Clean-up*** (3 hours)
12:15pm to 1:15pm – Lunch Reception & Course Exhibits (MacLaurin A100)
1:30pm to 2:30pm – Institute Lecture: William Bowen (U Toronto Scarborough): "Discovery, Collaboration and Dissemination: Lessons Learned and Plans for the Future" (MacLaurin A144)
2:40pm to 3:00pm – Awards and Bursaries Recognition; Closing, DHSI in Review (MacLaurin A144)