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

**Course Syllabus**

Digital Humanities Summer Institute

University of Victoria – June 8th to 12th, 2020

*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-2020*](https://github.com/ComputeCanada/dhsi-coding-fundamentals-2020)*.*

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-2020>

Learning Outcomes:

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

* Using the command line to manage files and folders, and run scripts.
* Installing and accessing Python via multiple platforms.
* 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. If you are at an institution that supports **Eduroam**, please make sure you have activated your ability to sign into the Eduroam wireless network at your institution, as the UVic Eduroam wireless is usually better than the dedicated DHSI wireless network.

This said, our class will be held in a computer lab, where you will have access to machines with all the proper software installed. We will use these machines to provide a uniform experience for the first half day 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 home 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, iPython, and Jupyter notebooks separately. You can download a free version of Anaconda at [https://www.anaconda.com/distribution/ - download-section](https://www.anaconda.com/distribution/#download-section). Please make sure to download the version of Anaconda that is offering Python 3.7 (or greater).
* **Windows, Mac, and Linux users** will need to install Sublime Text 3 or another text editor designed for coding. You can download a free trial version at https://www.sublimetext.com and the free trial version should be sufficient for this course.

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 3re:

*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 – ***Welcome; Introductions*** (1 hour, 45 mins)

*12*:*15pm to 1:15pm – Lunch break / Unconference Coordination Session (MacLaurin A144)*

1:30pm to 4:00pm – Class – ***Command Line 101; Python 101*** (2 hours, 30 mins)

*5:00pm to 6:00pm – Opening Reception (University Club); DHSIers with Kids Meet and Greet*

Day 2 – June 4th:

9:00am to 12:00pm – Class – ***Introduction to Jupyter Notebooks; Data Types and Variables; Libraries, Functions, and Methods*** (3 hours)

*12:15pm to 1:15pm – Lunch break / Unconference; "Mystery" Lunches*

1:30pm to 4:00pm – Class – ***Conditionals; Loops***  (2 hours, 30 mins)

*4:15pm to 5:15pm – DHSI Colloquium Session 4 (MacLaurin A144)*

*6:00pm to 8:00pm – DHSI Newcomer’s Gathering (Grad House Restaurant)*

Day 3 – June 5th:

9:00am to 12:00pm – Class – ***File Imports and Exports; Busting Out of the Notebooks; Strategies for Getting Help*** (3 hours)

*12:15pm to 1:15pm – Lunch break / Unconference; "Mystery" Lunches; Presentation: An Introduction to Scholarly Publishing with Manifold (MacLaurin A144)*

1:30pm to 4:00pm – Class – ***Project Boosters; Project Brainstorming*** (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 6th:

9:00am to 12:00pm – Class – ***Group Project Work*** (3 hours)

*12:15pm to 1:15pm – Lunch break / Unconference; "Mystery" Lunches*

1:30pm to 4:00pm – Class – ***Group Project Work*** (2 hours, 30 mins)

*4:15pm to 5:15pm – DHSI Colloquium Session 3 (MacLaurin A144)*

6:00pm to ??? – ***Optional Coding Evening*** *(Felicitas, SUB)*

Day 5 – June 7th:

9:00am to 12:00pm – Class – ***Group Project Work and Final Clean-up*** (3 hours)

*12:15pm to 1:15pm – Lunch Reception & Course Exhibits (MacLaurin A100)*

*1:30pm to 2:00pm – Closing, DHSI in Review (MacLaruin A144)*