PYTHON

Course Description (see<http://lassonde.yorku.ca/course-directory/eecs-1530-300> )

Concepts of computer systems and technology - e.g. software engineering, algorithms, programming languages, theory of computation. Practical work focuses on problem solving using a high-level programming language. The course requires extensive laboratory work. This course is designed for students who are not Computer Science majors, but may be used as preparation by those who wish to major in Computer Science but lack programming background. Course credit exclusions: LE/EECS 1540 3.00, LE/CSE 1540 3.00 (prior to Fall 2014), SC/CSE 1540 3.00 prior to Summer 2013). Previously offered as: LE/CSE 1530 3.00, SC/CSE 1530 3.00. NCR: any student who has passed or is taking LE/EECS 1020 3.00 or LE/CSE 1020 3.00 or SC/CSE 1020 3.00 or LE/EECS 1021 3.00 or LE/EECS 1022 3.00 or AP/ITEC 1620 3.00.

**Language of Instruction:**

English

**Course Schedule:**

Fall/Winter 2018-2019 Schedule

Course Syllabus

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| Week 1 | **Chapter One - Why we Program?**   * Welcome to Python 3 * Why Program * Hardware Overview * Python as a Language * Submitting Assignments |
| Week 2 | **Installing and Using Python**   * Using Python in this Class * Notes on Choice of Text Editor * Demonstration: Using the Python Playground * Windows 10: Installing Python and Writing a Program * Windows: Taking Screenshots * Macintosh: Using Python and Writing a Program * Macintosh: Taking Screenshots |
| Week 3 | **Chapter One: Why We Program (continued)**   * Big Picture of Programming * Writing Paragraphs of Code * Demonstration: Doing the "Hello World" Assignment * Graded Quiz: Chapter 1 * Graded Practical Assignment: Write Hello World |
| Week 4 | **Chapter Two: Variables and Expressions**   * Using Computer's Memory to Store, Retrieve and Calculate Information. * Variables and Memory * Variable Types * Assignment Statement * Expressions * Worked Exercise: Variables and Expressions * Graded Quiz: Chapter 2 * Graded Practical Assignment : Expressions |
| Week 5 | **Chapter Three: Conditional Code**   * Conditional Statements * Worked Exercise: Conditional Code * Graded Quiz: Chapter 3 * Graded Practical Assignment: Conditional Code |
| Week 6 | **Chapter Four: Functions**   * Using Functions * Building Functions * Worked Exercise: Functions * Graded Quiz: Chapter 4 * Graded Practical Assignment: Functions |
| Week 7 | **Chapter Five: Loops and Iteration**   * Midterm Exam 1 * Loops and Iteration * Definite Loops * Finding the Largest Value * Loop Idioms * Worked Exercise: Loops * Graded Quiz: Chapter 5 * Graded Practical Assignment: Loops and Iteration |
| Week 8 | **Chapter Six: Strings and Numbers**   * Numbers * Strings * Manipulating Strings * Worked Exercise: Strings * Graded Quiz: Chapter 6 * Graded Practical Assignment: Strings |
| Week 9 | **Chapter Seven: Files**   * Files * Processing Files * Worked Exercise: Files * Graded Quiz: Chapter 7 * Graded Practical Assignment: Files |
| Week 10 | **Chapter Eight: Lists**   * Midterm Exam 2 * Lists * Manipulating Lists * Lists and Strings * Worked Exercise: Lists * Graded Quiz: Chapter 8 * Graded Practical Assignment: Lists |
| Week 11 | **Chapter Nine: Dictionaries**   * Dictionaries * Counting with Dictionaries * Dictionaries and Files * Worked Exercise: Dictionaries * Graded Quiz: Chapter 9 * Graded Practical Assignment: Dictionaries |
| Week 12 | **Chapter Ten: Tuples**   * Tuples * Worked Exercise: Tuples and Sorting * Graded Quiz: Chapter 10 * Graded Practical Assignment: Tuples |
| Week 13 | **Final Exam**   * Formal three hour examination at the end of the term. |

Textbooks and software

* **Textbook:** Charles R. Severance (2016), Python for Everybody, Exploring Data Using Python 3,<https://www.amazon.com/Python-Everybody-Exploring-Data/dp/1530051126/>
* **Textbook:**[How to Think Like a Computer Scientist: Interactive Edition (Python)](http://interactivepython.org/courselib/static/thinkcspy/index.html) .
* **Recommended Software:**
  + Python 3.6. using [Anaconda](https://docs.continuum.io/anaconda/)
  + Text editor ([Sublime](https://www.sublimetext.com/), etc. )
* **Useful Links:**

·  [Sublime Text Editor](https://www.sublimetext.com/)

·  [Anaconda](https://docs.continuum.io/anaconda/)

·  [Python Docs](https://docs.python.org/3/)