ECE 498 – Section 0003
Introduction to Python
Fall 2020
Credit Hours: 1

Course Schedule: 11:00 to 11:50 MWF, August 31 to October 2

Instructor: Richard Eason, 205 Barrows Hall, reason@maine.edu, 581-2242

Office Hours: TBD

Text: Think Python, 2nd Edition by Allen Downey; O'Reilly

Prerequisite: ECE 177 or COS 220 (or equivalent)

Course Overview:

This course provides an introduction to the Python programming language for students that already have some programming experience. This 1-credit course is offered during the first third of the semester and it may be taken either by itself or along with a follow-on 2-credit course offered in the same time-slot during the second two-thirds of the semester that continues the topic. This 1-credit course will cover the basics of programming and problem solving using Python including syntax, control flow, functions and data types, thereby giving the student a basic understanding of the language suitable for accomplishing simpler tasks and providing a springboard for further self-study. The course will involve extensive hands-on programming with a strong emphasis on using good Python programming practices. Python 3 will be used exclusively.

Course Objectives:

This course will cover an array of topics that provide an introduction to Python programming. The topics include the following.

- Basic syntax and core features of Python
- Data types including strings, lists, tuples, sets and dictionaries
- Using good Python programming practices
- Using control structures including sequences, conditional statements, loops and functions
- List comprehensions
- How to run Python code interactively as well as write scripts, import, utilize and create modules
- Input, output and file operations, including formatting output
- Introduction to interacting with hardware

Learning Outcomes:

By the course completion, students in the class should be able to:

- write code using the basic syntax, data types (strings, lists, tuples, sets and dictionaries) and other core features of Python
- explain the difference between mutable and immutable types
- write simple top-down down code utilizing assignments, sequences, conditional statements, loops and functions
- write code using list comprehensions
- design, code, and test small Python programs that meet requirements expressed in English
- run Python code interactively as well as write scripts
- write code to read from and write to files and print with formatted output
- import and utilize modules as well as create modules

Course Assessment:

Assessment will be based on:

- Programming assignments, 65%
- Class attendance, participation and quizzes, 15%
- Final exam, 20%

University of Maine administrative policy statements

Academic Honesty Statement: Academic honesty is very important. It is dishonest to cheat on exams, to copy term papers, to submit papers written by another person, to fake experimental results, or to copy or reword parts of books or articles into your own papers without appropriately citing the source. Students committing or aiding in any of these violations may be given failing grades for an assignment or for an entire course, at the discretion of the instructor. In addition to any academic action taken by an instructor, these violations are also subject to action under the University of Maine Student Conduct Code. The maximum possible sanction under the student conduct code is dismissal from the University. Please see the University of Maine System's Academic Integrity Policy listed in the Board Policy Manual as Policy 314: https://www.maine.edu/board-of-trustees/policy-manual/section-314/

Students Accessibility Services Statement: If you have a disability for which you may be requesting an accommodation, please contact Student Accessibility Services, 121 East Annex, 581.2319, as early as possible in the term. Students who have already been approved for accommodations by SAS and have a current accommodation letter should meet with me, Rick Eason, (the instructor of the course) privately as soon as possible.

Course Schedule Disclaimer (Disruption Clause): In the event of an extended disruption of normal classroom activities (due to COVID-19 or other long-term disruptions), the format for this course may

be modified to enable its completion within its programmed time frame. In that event, you will be provided an addendum to the syllabus that will supersede this version.

COVID-19 is an infectious disease caused by the coronavirus SARS-CoV-2. The virus is transmitted person-to-person through respiratory droplets that are expelled when breathing, talking, eating, coughing or sneezing. Additionally, the virus is stable on surfaces and can be transmitted when someone touches a contaminated surface and transfers the virus to their nose or mouth. When someone becomes infected with COVID-19 they may either have no symptoms or symptoms that range from mild to severe and can even be fatal. During this global pandemic, it is imperative that all students, faculty, and staff abide by the safety protocols and guidelines set forth by the university to ensure the safety of our campus. All students are encouraged to make the Black Bears Care Pact to protect the health of themselves, the health of others, and the college of our hearts always.

Observance of Religious Holidays/Events: The University of Maine recognizes that when students are observing significant religious holidays, some may be unable to attend classes or labs, study, take tests, or work on other assignments. If they provide adequate notice (at least one week and longer if at all possible), these students are allowed to make up course requirements as long as this effort does not create an unreasonable burden upon the instructor, department or University. At the discretion of the instructor, such coursework could be due before or after the examination or assignment. No adverse or prejudicial effects shall result to a student's grade for the examination, study, or course requirement on the day of religious observance. The student shall not be marked absent from the class due to observing a significant religious holiday. In the case of an internship or clinical, students should refer to the applicable policy in place by the employer or site.

Sexual Violence Policy:

Sexual Discrimination Reporting: The University of Maine is committed to making campus a safe place for students. Because of this commitment, if you tell a teacher about an experience of **sexual assault, sexual harassment, stalking, relationship abuse (dating violence and domestic violence), sexual misconduct or any form of gender discrimination** involving members of the campus, **your teacher is required to report** this information to Title IX Student Services or the Office of Equal Opportunity.

If you want to talk in confidence to someone about an experience of sexual discrimination, please contact these resources:

For *confidential resources on campus*: **Counseling Center: 207-581-1392** or **Cutler Health Center: at 207-581-4000.**

For *confidential resources off campus*: **Rape Response Services:** 1-800-871-7741 or **Partners for Peace:** 1-800-863-9909.

Other resources: The resources listed below can offer support but may have to report the incident to others who can help:

For *support services on campus*: **Title IX Student Services: 207-581-1406, Office of Community Standards: 207-581-1409, University of Maine Police: 207-581-4040 or 911.** Or see the OSAVP website for a complete list of services.