UNIVERSITY OF SOUTHERN MAINE

# Python Programming

Department of Computer Science

Spring 2025


## Instructor Info

**Dr. Behrooz Mansouri**
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**Office:** Room 288 Dubyak Center.
**Student Hours:** Tuesdays 12:30–1:30
Thursdays 10:00-11:00


## Course Meetings

Science Building 290, Portland USM Campus
Tu-Th 2:00 - 3:15 PM
Luther Bonney 502 - P, Portland USM Campus
Tu 3:30-4:20 PM

Services & Policies that Support You

Academic Services & Policies[1]

## Contents



# 1. Course Information

## 1A. Course Description

A first introduction to computer programming for solving practical problems, taught in Python, a modern object-oriented, dynamic computer language. The course teaches how to represent aggregates of data, process data selectively and repetitively, structure programs with functions and use predefined libraries with an eye toward acquiring, managing, visualizing, and performing basic analysis of sets of data. Students will conduct hands-on programming, both at home and in the lab
Prerequisite: grade of C or better in MAT 108 or permission of instructor. Cr 4.

## 1B. Course Materials & Books

- PYTHON PROGRAMMING: AN INTRODUCTION TO COMPUTER SCIENCE by John Zelle
- Python for Everybody: Exploring Data Using Python 3 by Charles R. Severance

[1] https://mycampus.maine.edu/group/usm/common-syllabus

## 1C. Course Learning Outcomes

- Foundational Python Skills: Understand Python syntax, variables, expressions, and flow control structures such as conditions and loops to solve problems systematically
- Data Structures and Collections: Learn to work with strings, lists, dictionaries, tuples, and custom data structures like stacks and queues for efficient data handling
- Functions and Recursion: Develop modular code using functions, recursive methods, and object-oriented principles to design robust and reusable programs
- File Handling and Web Interactions: Gain expertise in file input/output operations, web scraping, and working with libraries like Beautiful Soup for real-world applications
- Data Analysis and Visualization: Use libraries such as NumPy and Matplotlib for data manipulation and visualization, and explore NLP tools like NLTK and spaCy
- Advanced Applications and Interfaces: Implement Python programs for user interfaces, web programming, and introductory deep learning concepts to solve complex problems

# 2. Coursework & Grading

## 2A. Grade Scale

This is a typical percentage-to-letter grade scheme for many U.S. postsecondary institutions.

| | | | | | |
|---|---|---|---|---|---|
| 100-93% | = | A | 79-77% | = | C+ |
| 92-90% | = | A- | 76-73% | = | C |
| 89-87% | = | B+ | 72-70% | = | C- |
| 86-83% | = | B | 69-60% | = | D |
| 82-80% | = | B- | 59% or lower | = | F |

## 2B. Course Grade Breakdown

| | |
|---|---|
| Class Activities | 10% |
| Assignments | 40% |
| Labs | 5% |
| Exam 1 | 15% |
| Exam 2 | 15% |
| Exam 3 | 15% |

## 3. Class Schedule (Part 1)

| Date | Lecture | Topic | Assignments |
|---|---|---|---|
| 21/01 | 1 | Introduction | |
| 23/01 | 2 | Flowchart and Problem-Solving | Assignment 1 |
| 28/01 | 3 | Variable and Expressions (1) | |
| 30/01 | | | |
| 04/02 | 4 | Variable and Expressions (2) | Assignment 2 |
| 06/02 | 5 | Conditional Execution (1) | |
| 11/02 | 6 | Conditional Execution (2) | Assignment 3 |
| 13/02 | 7 | Loops (1) | |
| 18/02 | 8 | Loops (2) | Assignment 4 |
| 20/02 | - | Exam 1 | |

# 4. Course-Specific Policies

## 4A. Attendance

Students are expected to attend all the classes in-person. **More than three absences will result in an "L" grade for this course, meaning the student has stopped attending.** During the class:

- No late arrivals – Late arrival is considered as an absence and for labs students will not be graded and cannot join other teams
- No phone at any time
- Laptops can be open only and only if there is a class activity

## 4B. Late Work

Late submissions will be accepted up to 48 hours after the deadline, with a 20% penalty.

Assignment and project grades can be disputed within one week after the graded work is handed back.

## 4C. Class Cancellation

Under circumstances other than institution-wide closures, students will be notified 72 hours before the class.

## 4D. Inclement Weather Contingencies

Upon campus closure, the class may continue in an online mode using the class Zoom link.

## 4E. Assignments and Class Activities

Assignments and activities will be done individually. The class activities will be delivered upon call by students showing their problem-solving approach or by submission through BrightSpace.

## 4F. Computer Science Lab

The COS computer lab is located in 103 Science, and is accessible by Huskie card access whenever the building itself is open. Get your Huskie card programmed for access at the card office. Many of the computers in the COS lab run Linux. You will have accounts on these computers with permanent network storage.

## 5. Academic Services & Policies

For USM's most current information on services available to students and academic policies, see The Academic Services & Policies Overview webpage[2] where you will find specifics on the following:

- **Services to help you succeed**
    - Disability Accommodations, Plan for Academic Success, Access Textbooks and Technology, Work with a Trained Peer, Access Wellness Resources, Find Community.
- **University Policies**
    - Academic Integrity, Disability Accommodations, Acceptable Conduct In Class Settings, Course Evaluations, Covid Face Covering Requirement, Dropping/Withdrawal from the Course, Inclement Weather, Online Conduct,, Nondiscrimination Policy And Bias Reporting, Statement On Religious Observance For USM Students, and Title IX Statement, and Technology Requirements.


**Scan the QR Code to go to the Academic Services & Policies webpage[3]**

[2] https://mycampus.maine.edu/group/usm/common-syllabus
[3] https://mycampus.maine.edu/group/usm/common-syllabus