CS170/01: Introduction to Python Programming – Fall 2019

Thursday: 11:00 – 12:15 p.m. at McGraw Hall #115

Instructor: Jiehui (Jenny) Ma
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Office Hours: Laurentide Hall #2227, M: 1:45 – 3:15 p.m.; Tu: 2:00 – 4:00 p.m.; W: 1:00 – 3:00 p.m.;
And also by appointments.

Textbook (Required)

Python Programming: An introduction to computer science, second Edition, John Zelle, (available to rent from University Bookstore)

Prerequisites

Math141 Intermediate Algebra or waiver. **A student may not earn credit for any course which is a pre-requisite for another course in which credit has been earned unless prior departmental approval is obtained.**

Course Description

Python is a language with a simple syntax, and a powerful set of libraries. While it is easy for beginners to learn, it is widely used in many scientific areas for data exploration. This course is an introduction to the Python programming language for students without prior programming experience. You will learn the foundations of computer programming, basic computer algorithms, and data structures and how to use them for effective problem solving.

Learning Objectives

By the end of this course you should be able to:

- Understand data types and the operations that can be applied to each data type.
- Write programs that get input, perform calculations, and provide output.
- Write well designed and well documented programs that are easily maintainable.
- Test and debug programs.
- Enjoy the art and science of computer programming.

Course Outline

1. Variables, data types, assignment statements, numeric and string operations
2. Data type conversion
3. Selection structure
4. Repetition structure
5. Functions
6. Working with Lists
7. File Handling

Computing

The course will use Python 3. All computers in the classroom and the General Access Lab have Python 3 installed. Also, the software can be downloaded for free from the following website: https://www.python.org/download/releases/3.2/ . Note that, Python is preinstalled on Mac and Linux.

Homework Assignments (40%) The homework assignments will be given weekly. They will be downloaded from the course website on **Canvas**. These assignments are **due on the Wednesday after they are assigned, by 11:59 pm. Late penalty = 10% per day.** When you turn in your assignments, you need to upload the files on **Canvas** under the Assignments → Weekly Homework.

Collaboration There are no group assignments in this course, and just like an essay or term paper, the programs are expected to be your own. You may discuss homework problems with your instructor, other students, or do on-line research, but you must design and write the code yourself. You may consult with others about your design or seek help in debugging, but you

may not collaborate with anyone on the writing of your code. Solutions prepared "in committee" or by copying or paraphrasing someone else's work are not acceptable.

Quizzes (15%) There will be one quiz given every week. No make-up quizzes will be given; the two lowest quiz scores will be dropped though.

Tests (midterm test 20% and final test 25%) **Two announced** closed-book examinations will be given. Exams are to be taken when scheduled. If you have an emergency or are ill on the day of the exam, contact me **before the exam** to schedule a make-up.

Test Schedule

	Date	Time	Room
Test1 (Midterm)	Thursday, Oct. 24	11:00 – 12:15 p.m.	McGraw #115
Test2 (Final)	Thursday, Dec. 19	10:00 – 12:00 noon	

Course Evaluation

Assignments/Homework	40%
Quizzes	15%
Test1 (Midterm)	20%
Test2 (Final Exam)	25%
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Final Grade	100%

Grading Scheme:

93 - 100% A	87 - 89.99% B+	77 - 79.99% C+	67 - 69.99% D+	0 - 59.99% F
90 - 92.99 % A-	83 - 86.99% B	73 - 76.99% C	63 - 66.99% D	
	80 - 82.99% B-	70 - 72.99% C-	60 - 62.99% D-	

Tentative Fall 2019 Schedule

Week		Lecture Topic	Reading Assignment
1		Syllabus; Introduction to computers and programming, using Python	Chapter 1.1 and 1.2
2		Designing a Python program, writing simple programs	Chapter 2.1 and 2.2
3		Numeric Data Types and Operators	Chapter 2.3
4		Boolean type values and if … else statement	Chapter 3.1
5		Multi way if statement	Chapter 3.2
6		Conditional expression and random numbers	Chapter 3.3
7		Loops	Chapter 4.1
8		Midterm exam review (see Test Schedule below)	
9		Functions	Chapter 5.1
10		Passing arguments to functions	Chapter 5.2
11		Strings and Characters	Chapter 6.1
12		Introduction to Lists	Chapter 6.2
13		Processing Lists	Chapter 6.3
14		Introduction to File	Chapter 7.1
15		Review for final	

16		Final Exam (see Test Schedule below)	

Important Dates

Date	Deadline
Sep. 10	Last day to add a semester course.
Sep. 16	Last day to drop a course so that no 'W' grade is assigned.
Sep. 16	Last day to drop a course for 100% refund.
Sep. 30	Last day to drop a course for 50% refund.
Nov. 29	Last day to drop a course – 'W' grade assigned.

Course Policies:

- Attend class regularly. If you have to miss class, make sure that you get notes from a classmate and check Canvas for any announcements.
- No other coursework, readings, surfing online, or chatting online is allowed in class.
- Cell phones must be in their off or vibrate mode in classes. No phone conversations are permitted in class!
- No extra credit work will be given to substitute the required work.
- Discussions, answering questions in class, and coming prepared to class with assigned readings are expected; asking questions in class are greatly appreciated.

UWW Policies:

The University of Wisconsin-Whitewater is dedicated to a safe, supportive and non- discriminatory learning environment. It is the responsibility of all undergraduate and graduate students to familiarize themselves with University policies regarding Special Accommodations, Misconduct, Religious Beliefs Accommodation, Discrimination and Absence for University Sponsored Events. For details please refer to the Undergraduate and Graduate Timetables; the "Rights and Responsibilities" section of the Undergraduate Bulletin; the Academic Requirements and Policies and the Facilities and Services sections of the Graduate Bulletin; and the "Student Academic Disciplinary Procedures" [UWS Chapter 14]; and the "Student Nonacademic Disciplinary Procedures" [UWS Chapter 17].