

CS 110: Introduction to Programming: Python (2)
MWF 8:10-9:10 or 9:20-10:20 PH103
Westminster College, Spring 2017

Instructor:

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Text: *Introduction to Computation and Programming using Python*, Guttag, Second edition, MIT Press, ISBN 9780262529624.

Prerequisite: None

Objective: This course presents an introduction to programming for math, science and technology-oriented students, using the Python programming language. The syntax and semantics of the language will be covered, with emphasis on mathematical and scientific applications. Object-oriented design, development and debugging will be covered

Goals:

- master the technical aspects of the Python programming language, including control structures, data types and arrays and file input/output. (Assessed through homework, projects and quizzes.) (CS1, CS2)
- learn to use built-in Python data structures such as lists, tuples, dictionaries and sets. (Assessed through homework, projects and quizzes.) (CS1, CS2, CS4)
- learn basic data processing techniques. (Assessed through homework, projects and quizzes.) (CS1, CS2)
- learn the basics of object-oriented design, development and debugging. (Assessed through homework, projects and quizzes). (CS1, CS2, CS3, CS4)

Outcomes:

- students will be able to write Python programs to solve basic data processing problems. (Assessed through homework, projects and quizzes.) (CS1, CS2)
- students will be able to explain the similarities and differences between the various built-in Python data structures and when it is appropriate to use them. (Assessed through homework, projects and quizzes.) (CS3, CS4)
- students will be able to create test suites for their code and demonstrate appropriate debugging strategies. (Assessed through homework, projects and quizzes.) (CS1, CS2, CS4)

	CS Program Outcomes
CS1	To learn the techniques and skills of computer programming, testing, debugging, analysis and architecture.
CS2	To develop a working knowledge of and problem solving strategies in a variety of sub-disciplines in the field.
CS3	To be able to read, write and speak effectively to a wide variety of audiences about technical ideas.
CS4	To develop the ability to visualize, represent and manipulate abstract ideas.
CS5	To participate in discipline-related activities outside the classroom.

Hints:

- Read ahead and understand text material.
- Complete/master the text, homeworks, labs and projects.
- Seek help **immediately** if you are struggling.
- Learn the material (sometimes in spite of presentation format).
- **Substantial** work outside of class.

Attendance: You are expected to attend all classes. Attendance will not constitute part of your grade but failure to attend will result in no credit for missed assignments, tests, quizzes, labs etc. Additionally, failure to attend will probably result in poorer performance on exams. **I do not provide class notes to students who miss class, excused or unexcused.**

Grading:

Letter grades are assigned based on the percentage of the available points that you receive. The grading scale is fixed. **I do not curve.** The grading scale is as follows:

Letter	Percentage	Letter	Percentage
A	[92,100]	A-	[90,92)
B+	[88,90)	B	[82,88)
B-	[80,82)	C+	[78,80)
C	[70,78)	D	[60,70)
F	[0,60)		

Homework:

Homeworks are given in order to help clarify text material. They will typically be graded on a five point scale although larger or more difficult homework assignments may be worth more. You are permitted to discuss homework with classmates but your submitted solution must be mostly your own work.

In-class exams:

There will be 1 midterm exam worth 150 points and a final exam worth 200 points.

Quizzes:

Quizzes may be given at any time throughout the semester. They will be worth 10 to 15 points each. Make sure you follow lectures and complete homework and reading assignments to help you prepare for quizzes.

Projects:

Projects may be assigned throughout the semester. They are similar to homework but expected to take longer and typically work more points. These are graded based on completeness and quality of work. It is your responsibility to thoroughly test your solutions to the problems. Projects should be treated as take-home exams. Each project will list resources that you may use for help (reference material, textbook etc).

Academic policies:

The department of Mathematics and Computer Science has a set of guidelines regarding academic honesty which can be found at: <http://www.westminster.edu/staff/bonomojp/cheating.html>

Unless otherwise specified all exams and projects must be entirely individual work. “Verbal” cooperation on lab projects is encouraged but the exchange of programs or program fragments either electronically or by visual inspection is not allowed. Keep your work to yourself and don’t copy from others.

Cheating on exams, quizzes or projects will result in a grade of 0 (zero) for that item. **All academic policies offenses will be referred to the college dean.**

Disabilities and special needs: I will make any necessary, reasonable accommodations for students with disabilities. If you have a disability which requires accommodations, it is your responsibility to indicate to me that you have a disability and to discuss with me what special needs you might have regarding this class. In addition to notifying me, if you have a disability which requires class accommodations, you must make it known to Westminster College’s student affairs office so that they can send me the proper paperwork.