Boston University Metropolitan College

Information Structures with Python

CS 521
Spring 2017
On Campus, ??? ???
Wednesday 6:00 pm – 8:45 pm

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Office hours: by appointment

Course Description
This course covers the concepts of the object-oriented approach to software design and development using the Python programming language. It includes a detailed discussion of programming concepts starting with the fundamentals of data types, control structures methods, classes, arrays and strings, and proceeding to advanced topics such as inheritance and polymorphism, creating user interfaces, exceptions and streams. Upon completion of this course students will be capable of applying software engineering principles to design and implement Python applications that can be used in conjunction with analytics and big data.

Textbook

Python Programming: An Introduction to Computer Science, 3rd Edition
John M. Zelle
Publisher: Franklin, Beedle & Associates Inc.
ISBN: 978-1590282755

Courseware
The course Web page is hosted on Blackboard Learn (https://learn.bu.edu). The class notes, homework assignments, and additional announcements will be posted here.

Class Policies

1) **Attendance & Absences** – Class attendance is required. Individual student is responsible for all scheduling and other announcements made in class. The likelihood of failing the course is subsequently increased if one fails to attend class regularly. The format of this course will be lectures, which will include working through sample problems. Certain course material will only appear during lectures, and most announcements will only be made in class.

2) **Assignment Completion & Late Work** – Blackboard Learn will be used for assignments submission. There will be 5 assignments. Each assignment is due on the assignment due date. 10% of the full score will be deducted from the assignment grade for each day that it is late. The submission will not be accepted after 7 days after the due date, and grade of 0 will be assigned.
3) **Academic Conduct Code** – Cheating and plagiarism will not be tolerated. They will result in no credit for the assignment or examination and may lead to disciplinary actions. Please take the time to review the Student Academic Conduct Code: http://www.bu.edu/met/metropolitan_college_people/student/resources/conduct/code.html.

   NOTE: [This should not be understood as a discouragement for discussing the material or your particular approach to a problem with other students in the class. On the contrary – you should share your thoughts, questions and solutions. Naturally, if you choose to work in a group, you will be expected to come up with more than one and highly original solutions rather than the same mistakes.]

Grading Criteria

Grades will be based on your participation in class and online discussion (5%), your grades for homework assignments (60%), and the final examination (35%).

Class Meetings, Lectures & Assignments

Lectures, Readings, and Assignments subject to change, and will be announced in class as applicable within a reasonable time frame.

Date	Topic	Reading
01/25	Introduction; Programming fundamentals	Chapter 1, 2, 3
02/01	Sequences; File operations	Chapter 5
02/08	Functions; Modularization	Chapter 6
02/15	Control structures	Chapter 7, 8
02/22	Object-oriented programming; Classes;	Chapter 10
03/01	Inheritance and polymorphism	Notes & references
03/15	Exceptions; Event driven programming	Notes & references
03/22	GUI programming	Notes & references
03/29	Date structures in CS	Notes & references
04/05	Database programming	Notes & references
04/12	Multithreading and multiprocessing	Notes & references
04/26	Recursion; Network programming	Notes & references
05/03	Review	
TBD	**Final Exam**	