Boston University Metropolitan College

Introduction to Software Development

MET CS 300 O1

Course Format (Online)

Instructor Name: Kuang-Jung Huang
Office hours: by appointment

Course Description

This course introduces basic concepts in discrete mathematics, computer systems and programming that are necessary for modern computing systems. It also develops analytic and logical thinking and prepares students to take graduate-level courses in software development degree. This course first reviews the basic concepts in discrete mathematics including logic, sets, functions, relations and combinatorics. Then it discusses the fundamental concepts in computer systems such as computer organization, basic OS concepts, CPU scheduling, memory management, process management and synchronization. Concurrently with the above mathematics and systems studies, programming concepts are introduced and practiced throughout the whole course using Python.

Books

Starting Out with Python (4th Edition) by Tony Gaddis
Publisher: Pearson; ISBN-10: 0134444329

This book can be purchased from Barnes and Noble at Boston University.

Courseware

https://onlinecampus.bu.edu/webapps/blackboard/content/listContent.jsp?course_id=_56375_1&content_id=_6738625_1&mode=reset

Class Policies

1) **Attendance & Absences** – Live classrooms: every Wednesday 9:00-10:00pm and Sunday 9:00-10:00pm until end of term.
2) **Assignment Completion & Late Work** – programming lab and assignment shall be submitted to online courseware by the due date (see the list of due dates in class meeting section). All late submissions are subject to 20% late penalty.
3) **Academic Conduct Code** –Cheating and plagiarism will not be tolerated in any Metropolitan College course. 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/cod

e.html. 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

Each week will have a Part A--Python--and Part B--Math or Operating Systems. The assignments, quizzes, and labs each week total 12%: 6% for Python programming and 6% Math (for the first three weeks) or Systems (for the second three weeks).

Weekly Python Labs:	0.3% x 6
Weekly Python programming assignments:	5.7% x 6
Weekly Math Quiz:	6% x 3
Weekly System Assignment:	4% x 3
Weekly System Quiz:	2% x 3
Python portion of Final Exam:	14%
Math portion of Final Exam:	7%
Systems Portion of Final Exam:	7%

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	Readings Due	Assignments Due
September 3	Math: Logic Programming: What is Programming?	Module 1 online content Gaddis, Chapter 1: Section 2.3	Programming Lab 1 due Saturday, September 7, at 6:00 AM ET Programming Assignment 1 due Tuesday, September 10, at 6:00 AM ET Math Quiz 1 due Tuesday, September 10, at 6:00 AM ET

September 10	Math: Combinations Programming: An Informal Introduction to Python	Module 2 online content Gaddis, Chapters 2 and 3	Programming Lab 2 due Saturday, September 14, at 6:00 AM ET Programming Assignment 2 due Tuesday, September 17, at 6:00 AM ET Math Quiz 2 due Tuesday, September 17, at 6:00 AM ET
September 17	Math: Relations and Functions Programming: Control Flow	Module 3 online content Gaddis, Chapter 4	Programming Lab 3 due Saturday, September 21, at 6:00 AM ET Programming Assignment 3 due Tuesday, September 24, at 6:00 AM ET Math Quiz 3 due Tuesday, September 24, at 6:00 AM ET
September 24	System: Data and Program Presentation and Computer Organization Programming: Defining Function	Module 4 online content Gaddis, Chapter 5	Programming Lab 4 due Saturday, September 28, at 6:00 AM ET Programming Assignment 4 due Tuesday, October 1, at 6:00 AM ET Systems Assignment 1 due Tuesday, October 1, at 6:00 AM ET Systems Quiz 1 due Tuesday, October 1 at 6:00 AM ET

October 1	System: Intro to OS, Process and Synchronization Programming: Coding Style	Module 5 online content Gaddis, Chapter 6	Programming Lab 5 due Saturday, October 5 at 6:00 AM ET Programming Assignment 5 due Tuesday, October 8 at 6:00 AM ET Systems Assignment 2 due Tuesday, October 8 at 6:00 AM ET Systems Quiz 2 due Tuesday, October 8 at 6:00 AM ET
October 8	System: Memory Management and Computer Networks Programming: Modules	Module 6 online content Gaddis, Chapters 7, 9, and 12	Programming Lab 6 due Saturday, October 12 at 6:00 AM ET Programming Assignment 6 due Tuesday, October 15 at 6:00 AM ET Systems Assignment 3 due Tuesday, October 15 at 6:00 AM ET Systems Quiz 3 due Tuesday, October 15 at 6:00 AM ET