Boston University Metropolitan College

BOSTON UNIVERSITY

Information Structures using Java
MET CS 520
Course - Hanscom Air Force Base
Monday 6:00pm – 8:45pm
Fall 2018

Instructor: Ed Orsini
Email: edorsini@bu.edu
**Office hours:** After class every week

Course Description
This course covers the concepts of the object-oriented approach to software design and development using the Java programming language. It includes a detailed discussion of programming concepts starting with the fundamentals of data types, control structures methods, classes, applets, arrays and strings, and proceeding to advanced topics such as inheritance and polymorphism, interfaces, creating user interfaces, exceptions and streams. Upon completion of this course the students will be able to apply software engineering criteria to design and implement Java applications that are secure, robust, and scalable. 4 credits.

Books
Absolute Java, 6th Ed, Walter Savitch, 2016.
ISBN-13: 978-0134041674
ISBN-10: 0134041674
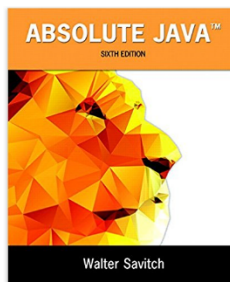
Course Website
Blackboard website: https://learn.bu.edu/

Class Policies
1) **Attendance & Absences** – Attendance is expected at all class meetings and it will be factored into the class participation grade. You are responsible for ALL the material covered and discussed in class. Coming to class late, leaving early, or being absent would result in missing important topics covered and discussed in class that negatively affects your final grade.
2) **Assignment Completion & Late Work** – No late homework will be accepted. Any late or

missed assignment will be graded as zero. Exceptions may be made in case of an illness or an emergency condition only when a verifiable documentation is submitted within reasonable timeframe. All assignment submissions must be electronically submitted to the class Blackboard website on or before the published due date (No paper/e-mail submission). It is students' responsibility to make sure all assignments submissions are successful and make backups of work submitted.

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.

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Grading Criteria

The grade that a student receives in this class will be based on several components and its breakdown is shown below. All percentages are approximate and the instructor reserves the right to make necessary changes.

Class Participation	5%
Homework	25%
Mid-term Exam	30%
Final Exam	40%

Total	**100%**

Programming Evaluation Criteria

Programs will be graded roughly as follows (all percentages are approximate and the instructor reserves the right to make necessary changes):

- 60% execution correctness (e.g. output is correct and is consistent with guidelines)
- 10% structure (e.g., modularization, information hiding, etc.)
- 10% insightful programming (e.g., developing reusable class components, etc.)
- 10% consistent style (e.g., capitalization, indenting, etc.)
- 10% appropriate commenting style

Programs submitted after the deadline will receive a 0. Late work will not be accepted.

Letter grade/numerical grade conversion is shown below:

A (95-100)	A- (90-94)
B+ (85-89)	B (80-84)
B- (75-79)	C+ (70-74)
C (65-69)	C- (60-64)
D (50-59)	F (< 50)

Class Meetings, Lectures & Assignments

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

NOTE: No class on 10/8, 10/15, 11/12, and 11/19.

Date	Topic	Readings Due	Assignments Due
September 10, 17	• Introduction to Java • Data types, variables, expressions, and statements	Chapters 1, 2, 3	

	• Control Structures		
September 24, October 1	• Defining Classes • Object-Oriented Programming • Inheritance, Interfaces, and Polymorphism	Chapters 4, 5, 7, 8	Homework 1 due 9/24
October 8	No class – Columbus Day		
October 5, (October 15 - No Class) October 19	• Strings • Exception Handling • File I/O	Chapters 9, 10	Homework 2 due 10/15
October 22	Midterm Exam - Covers Chapters 1-3		
October 29, November 5	• Data Structures (Arrays, Lists, Maps, and Iterators) • Graphics (SWING)	Chapter 14, 16, 17, 18	Homework 3 due 10/29
November 12	No class – Veterans Day Observed		
November 16, (November 19 - No Class) November 26	• Advanced Data structures (Linked Lists, Stacks, and Queues) • Databases (JDBC)	Chapters 15, 19	Homework 4 due 11/12
December 3	• Multithreading and synchronization • Networking • Functional Programming	Chapter 19	Homework 5 due 11/26
December 10	Final Review		Homework 6 due 12/10
December 17	Final Exam	Cumulative—covers all course material. Multiple choice, closed book.	