Advanced Java Programming
Boston University

MET CS 622 B1, Spring 2018

Day: Tuesday, 6:00-8:45 PM
Location: Boston Campus, Building: SHA, Room: 210
Instructor: Mike Tizio
E-mail: mtizio@bu.edu
Office Hours: Before class (Tuesday 5:00 PM to 6:00 PM)
BU Blackboard: https://learn.bu.edu/webapps/portal/frameset.jsp

COURSE DESCRIPTION

This course is designed to familiarize students with object-oriented programming using the advanced features of Java. Specifically, to prepare students for application development using collections, generics, lambdas, streams, concurrency, database connectivity, UI development, and networking in Java.

PREREQUISITE

MET CS 342 or equivalent knowledge of Java or C++. Or MET CS 521 and MET CS 526. Or instructor's concent

LEARNING OBJECTIVES

By successfully completing this course you will be able to:

- Use the advanced features of Java for object-oriented programming
- Design and develop applications using collections, generics, lambdas, streams and Java.
- Design and develop applications using concurrency, database connectivity, and networking in Java

TEXT

Required:

Java How to Program (10th Edition), by Deitel and Deitel, published by Pearson, 2015, ISBN-13: 978-0-13-380780-6 (ISBN-10: 0-13-380780-0)

GRADING

Programming assignments/Homework	40%
Class Participation and Attendance	10%
Midterm	25%
Final	25%

PROGRAM EVALUATION CRITERIA

Program correctness
Documentation
Readability

SCHEDULE

DATE	TOPIC	READING (TEXT CHAPTER)
01/23	Classes, Objects, Inheritance, Polymorphism, Abstract classes, Interfaces	1 thru 6
01/30	Classes, Objects, Inheritance, Polymorphism, Abstract classes, Interfaces	6 thru 10
02/06	Exception Handling, StringBuilder, Regular expressions, Text I/O – Files and Streams	11, 14, 15
02/13	Exception Handling, StringBuilder, Regular expressions, Text I/O – Files and Streams	11, 14, 15
02.20	No class	
02/27	Generic collections, Generic classes and methods	16, 20
03/06	Binary I/O, Object Serialization, JavaFX, Eventdriven programming, Lambdas and Streams	15, 25, 17
03/13	Spring Break	
03/20	Midterm	
03/27	Binary I/O, Object Serialization, JavaFX, Eventdriven programming, Lambdas and Streams	15, 25, 17
04/03	Database connectivity	25
04/10	Concurrency, Networking	23, 28
04/17	JavaFX, Android Dev: listView/gridView/Etc.	23, 25, 28
04/24	Fragment/Intent/Extra	
04/01	Final Presentation	
04/08	Final Presentation	

IMPORTANT NOTES

- Assignments will not be accepted past their due date.
- Reading the relevant material in the textbook is essential for gaining a thorough understanding of the topics covered in the course.
- Not all of the material in each chapter will be covered during lecture/discussion, but the material should be read in any case.
- Your programs must be done in Java. All programming assignments must include the source code, pseudo code (program outline) including test plan, as well as the UML class diagrams. Programming assignments will not be accepted later than the end of the class the day it is due. Students will not receive credit for late homework.
- Be sure to get a copy of 2018 Spring Schedule. It contains lots of useful data such as radio stations announcing class cancellations, important dates, etc.
- Inclement weather: BU will announce University closures via the BU website www.bu.edu. As a last resort for information, call the University operators at (617) 353-2000.

ACADEMIC HONESTY

The course is governed by the Academic Conduct Committee policies regarding plagiarism (any attempt to represent the work of another person as one's own). This includes copying (even with modifications) of a program or a segment of code. You can discuss general ideas with other people, but the work you submit must be your own. Collaboration is not permitted.

ELECTRONIC MAIL

To be sure you *can* communicate with the instructor electronically and to add your email to the class distribution list, please send a test message with the subject line *CS422 TEST* to the instructor's email address – include your name in the body of the message.

HOW TO APPLY FOR A BU ACS ACCOUNT

You need an ACS account to access the course's website. If you do not have an ACS account, you can apply for one by following the directions at this site:
http://www.bu.edu/computing/accounts/acsaccounts/