



MET CS 232 PROGRAMMING WITH JAVA

Section C1: 18sprgmetcs232_c1 (Spring 2018)

On-Campus, CAS 204A, Wed 6:00pm to 8:45pm, 1/24/2018 to 5/9/2018

Overview and Description:

This laboratory course teaches the fundamentals of computer programming using the Java programming language. Topics include: Java programs / applications, Java language elements, data types, control structures, object-oriented programming, methods, classes, arrays and string, inheritance and polymorphism, interfaces, collections, file input/output, streams, exceptions, test-driven development, Java software engineering, preview of advanced topics. 4 credits.

As this course is a prerequisite for several other courses, it is a "**Programming** with Java" course, as opposed to simply a "Java Programming **Language**" course. Students will learn foundations of programming and software engineering with Java, not just elements of a single programming language.

Instructor, Contact Email, Office Hours and Site:

Instructor: Alex Esterkin

E-mail: alexest@bu.edu

Office hours: After the class or by appointment; Weekly "Live Office" study session online in Zoom Meeting Room

Official BU Calendar: <http://www.bu.edu/reg/calendars>

Blackboard (learn.bu.edu)

CS232 relies on Blackboard. You absolutely need an account to access to our course. Please attempt to login as soon as you can and verify your access to our course.

Pearson MyProgrammingLab

CS232 incorporates MyProgrammingLab exercises and programming assignments. MyProgrammingLab access code is required. See **Course Book** below

Course Book

"Java: How to Program, Early Objects, 11th Ed., 2018", Paul Deitel and Harvey Deitel

MyProgrammingLab for "Java: How to Program, Early Objects, 11e" is required. It consists of a set of programming exercises correlated to the programming concepts in this book. Through hundreds of practice problems, the system automatically detects errors in the logic and syntax of their code submissions and offers targeted hints that enable students to figure out what went wrong—and why.

Order from **Barnes & Noble @BU** or at <http://www.mypearsonstore.com/bookstore/java-how-to-program-early-objects-plus-mylab-programming-0134800273>

Order one of the following:

- Digital Only (\$96.95 via **MyPearsonStore**, not available via **Barnes & Noble @BU**)
 - ISBN-13: 9780134752099 – MyLab Programming with Pearson eText -- Instant Access -- for Java How to Program, Early Objects, 11th Edition
- Print + Digital (available from **Barnes & Noble @BU** and from **MyPearsonStore**)
 - ISBN-13: 9780134800301 – Student Value Edition (loose leaf) Plus MyLab Programming with Pearson eText -- Access Card Package
 - ISBN-13: 9780134800271 – Printed copy of the Textbook Plus MyLab Programming with Pearson eText -- Access Card Package

BYOD (Bring Your Own Device – Laptop, Ultrabook, Etc.)

Please, bring your own portable computing device – we will have in-class review exercises, mini-labs, and quizzes almost every week. I will also share video notes. You will have Java 9 or Java 8 JDK and IntelliJ IDEA Ultimate IDE installed on this device.

Integrated Development Environments

We will be using the IntelliJ IDEA for this course.

Please, apply for a complimentary license at <https://www.jetbrains.com/student/> You will be granted complimentary ultimate edition license for all languages and tools (including everything related to Java), which will be delivered to you via email.

After that, download IntelliJ IDEA Ultimate from the page above and apply the license. This is an overkill for this course, but you will learn faster and without distractions by using the best existing Java IDE. You will also benefit from it in other MET CS courses. We will get up to speed using in during our first couple of classes.

Assignments, Quizzes, Deadlines

- MyProgrammingLab homework is assigned when the corresponding material is studied.
- Students are advised to keep up with MyProgrammingLab assignments as much as possible. Initially, this might feel as too much homework. Students will have the opportunity to move at their own pace or leave gaps; they will have time to catch up or fill the left gaps of work later, as there will be significantly less MyProgrammingLab work included in most of Lab assignments in the second half of the course. The Instructor will adjust grading scores for prior Lab assignments when students add work and do the missed parts, and will continue doing so throughout the course.
- There will be a 5% deduction for Online Quizzes taken up to 1 day late.
- There will be a 10% deduction for Online Quizzes taken 2-3 days late or for a granted retake (granted by the Instructor in some cases).
- There will be a 15% deduction for Online Quizzes taken 4-5 days late or for a granted retake in combination with lateness.

Extensions and make-ups will only be granted on a case-by-case basis and must be of a very serious nature.

Grading Policies

Homework – MyProgrammingLab	- 40%.	Homework Lab assignments added almost every week; students will be able to catch up and complete prior Lab assignments.
Quizzes and Tests	- 30%.	There will be a mid-term test and online quizzes (in Blackboard Learn) that cover material up to that week.
Comprehensive Examination	- 30%.	Final exam will cover all course topics and all the material covered in this course.

The Instructor will adjust grading scores for prior Lab assignments when students add work and do the missed parts, and will continue doing so throughout the course.

Academic Honesty

The course is governed by the Boston University Academic Conduct, Metropolitan College.

You need to be aware of its contents: www.bu.edu/met/for-students/met-policies-procedures-resources/academic-conduct-code

Course Schedule (Section C1)

Course Schedule and Syllabus* (Subject to change)

Week	Dates	Topics	Readings	Tests, Quizzes	Labs
Week 1	January 24, 2018	Introduction to Java Applications. IDE, How to Configure and Use IDE, Debugging, Version Control, and Language Basics.	Chapters 1, 2, Appendix E		
Week 2	January 31, 2018	Data Types, Expressions, The String object, Using the Scanner class, Building and executing Java programs. Test-Driven Programming.	Chapters 3, 14, Appendix I		MyLab Ch 2 MyLab Ch 3
Week 3	February 06, 2018	Conditional Statements, Control Structures, Control Statements.	Chapter 4		MyLab Ch 4
Week 4	February 14, 2018	Iterative Statements, Logical Operators.	Chapters 5		MyLab Ch 5
Week 5	February 21, 2018	Arrays, ArrayLists, The Quick First Look at Exceptions. Programming Paradigms: Procedural, Functional, Imperative, and Declarative.	Chapter 7, Instructor's Notes		Keep Working on MyLab
Week 6	February 28, 2018	Methods, Classes and Objects, Java API and How to Use It, Java Documentation. Static Methods. Calling Methods from Methods, Constructors from Constructors	Chapter 6 Appendix F, G		MyLab Ch 6 MyLab Ch 7
Skip Week	March 07, 2018	Spring Break (No classes)			
Week 7	March 14, 2018	Classes and Objects: A Deeper Look. A mid-term closed book test.	Chapter 8	In-class Test Online Quiz	MyLab Ch 8
Week 8	March 21, 2018	Classes and Object: A deeper Look (Cont.). Object-Oriented Programming: Interfaces.	Chapters 8, 9		MyLab Ch 9
Week 9	March 28, 2018	Object-Oriented Programming: Polymorphism and Interfaces.	Chapter 10		MyLab Ch 10
Week 10	April 04, 2018	Exception Handling, Files, Streams, and Serialization.	Chapter 11, 15		MyLab Ch 11
Week 11	April 11, 2018	Generic Collections, Iterators, Synchronized, Serializable, Mutable and Immutable Collections.	Chapter 16, 20	Online Quiz	MyLab Ch 15
Week 12	April 18, 2018	JavaFX, JDBC, Java Security, Class Loaders, Access Control, Good Java Programming Practices.	Chapter 12, 13, 24 Instructor's Notes		MyLab Ch 16
Week 13	April 25, 2018	Advanced Topics Preview: Networking, Lambda Expressions, Concurrency, Dependency Management, Dependency Injection, Enterprise Java, Apache Java projects, Microservices.	Chapter 17, 18, 23, 28 Instructor's Notes		Keep Working on MyLab
Week 14	May 02, 2018	Building Program Modules, Java 9 Platform Module System. Good Software Engineering Practices, Design Patterns. Course Review and Questions/Survey.	Instructor's Notes, Chapter 36	Quiz	Wrap-up Working on MyLab
Week 15	May 09, 2018	Comprehensive Examination (Open-Book).			