

Boston University Metropolitan College

MET CS 622 Online Course Syllabus (2026 Summer 1) Advanced Programming Techniques

Instructor

Eric Braude, Ph.D. ebraude@bu.edu

Course Duration

Start: May 5, 2026; End: June 22, 2026

Course Credit

4 credits

Course Description

The course will explore the advanced programming techniques such as polymorphism, libraries, method specifications, code management, exceptions, generics, lambdas, streams, database connectivity, concurrent programming, functional programming, and programming tests. Java will be used to illustrate these concepts. Students will implement a project or projects of their own choosing, in Java.

Prerequisites: MET CS 342, MET CS 520, or MET CS 521; or instructor's consent

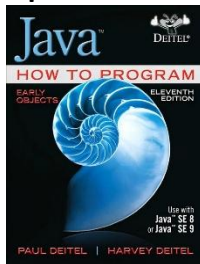
Course Learning Objectives

By successfully completing this course, you will be able to do the following:

1. Organize function code to promote lasting readability, reliability, and maintainability.
2. Use the advanced features of Java for object-oriented programming.
3. Design and develop applications using collections, generics, lambdas, streams in Java.
4. Design and develop applications using concurrency, database connectivity, and networking in Java.

Course Materials

Optional Book



Paul J. Deitel and Harvey Deitel (2018)
Java How to Program, Early Objects. (11th Edition)

Publisher: Pearson.

ISBN-13: 978-0134743356

The book is NOT required for the course. It's an optional reference that may be handy for your learning. This book can be purchased from [Barnes and Noble at](#)

[Boston University](#).

IDE Installation Guide

You may use either Eclipse, VSCode or IntelliJ in this course.

Study Guide and Timeline of Deliverables

This course starts on a **Tuesday** and is organized around seven weeks. The modules in this course run from **Tuesday to Monday**. The last week is reserved for the final exam so we will have six weeks to cover the material. The material is presented as modules, each module containing a set of related topics.

Module 1 Study Guide and Deliverables

(May 5 – May 11, 2026)

Module Theme and Topics: Object-Oriented Fundamentals

Readings:

- Module 1 online content
- Optional: Deitel & Deitel, Chapter 9 and Chapter 10
- Instructor's live class slides

Discussions:

Please post your introduction as soon as possible.

Assignments:

- **Interim Assignment 1** due **Saturday, May 9 at 12:00 PM ET**
- **Assignment 1** due **Tuesday, May 12 at 6:00 AM ET**

Live Classrooms:

- **Wednesday, May 6, 8:00 – 9:00 PM ET**
- **Thursday, May 7, 8:00 – 9:00 PM ET**

Module 2 Study Guide and Deliverables

(May 12 – May 18, 2026)

Module Theme and Topics: Handling Text and Exceptions

Readings:

- Module 2 online content
- Optional: Deitel & Deitel, Chapter 11, Chapter 14, and Chapter 15
- Instructor's live class slides

Assignments:

- **Interim Assignment 2** due **Saturday, May 16 at 12:00 PM ET**

- **Assignment 2 due Tuesday, May 19 at 6:00 AM ET**

Live Classrooms:

- **Wednesday, May 13, 8:00 – 9:00 PM ET**
- **Thursday, May 14, 8:00 – 9:00 PM ET**

Module 3 Study Guide and Deliverables

(May 19 – May 25, 2026)

Module Theme and Topics: Collections and Generics

Readings:

- Module 3 online content
- Optional: Deitel & Deitel, Chapter 16 and Chapter 20
- Instructor's live class slides

Assignments:

- **Interim Assignment 3 due Saturday, May 23 at 12:00 PM ET**
- **Assignment 3 due Tuesday, May 26 at 6:00 AM ET**

Live Classrooms:

- **Wednesday, May 20, 8:00 – 9:00 PM ET**
- **Thursday, May 21, 8:00 – 9:00 PM ET**

Module 4 Study Guide and Deliverables

(May 26 – June 1, 2026)

Module Theme and Topics: Memory, Search and Indexing

Readings:

- Optional: Chapter 5 of “Machine Learning and Artificial Intelligence: Concepts, Algorithms and Models”
- Instructor's live class slides

Assignments:

- **Interim Assignment 4 due Saturday, May 30 at 12:00 PM ET**
- **Assignment 4 due Tuesday, June 2 at 6:00 AM ET**

Live Classrooms:

- **Wednesday, May 27, 8:00 – 9:00 PM ET**
- **Thursday, May 28, 8:00 – 9:00 PM ET**

Module 5 Study Guide and Deliverables

(June 2 – June 8, 2026)

Module Theme and Topics: Concurrency

Readings:

- Module 5 online content
- Optional: Deitel & Deitel, Chapter 23
- Instructor's live class slides

Assignments:

- **Interim Assignment 5** due **Saturday, June 6 at 12:00 PM ET**
- **Assignment 5** due **Tuesday, May at 6:00 AM ET**

Live Classrooms:

- **Wednesday, June 3, 8:00 – 9:00 PM ET**
- **Thursday, June 9, 8:00 – 9:00 PM ET**

Module 6 Study Guide and Deliverables

(June 9 – June 15, 2026)

Module Theme and Topics: Batch and Stream; Java Networking Connectivity

Readings:

- Module 6 online content
- Optional: Deitel & Deitel, Chapter 24 and Chapter 28
- Instructor's live class slides

Assignments:

- **Interim Assignment 6** due **Saturday, June 13 at 12:00 PM ET**
- **Assignment 6** due **Tuesday, June 16 at 6:00 AM ET**

Live Classrooms:

- **Wednesday, June 10, 8:00 – 9:00 PM ET**
- **Thursday, June 11, 8:00 – 9:00 PM ET**

Course Evaluation:

Please complete the course evaluation once you receive an email or Blackboard notification indicating the evaluation is open. Your feedback is important to MET, as it helps us make improvements to the program and the course for future students.

Final Exam Details

The Final Exam is a proctored exam available from **Wednesday, June 17, 2026, at 6:00 AM ET to Saturday, June 20, 2026, at 11:59 PM ET.**

The Computer Science department requires that all final exams be administered using an online proctoring service that you will access via your course in Blackboard. In order to take the exam, you are required to have a working webcam and computer that meets the exam proctoring service's system requirements. Detailed instructions regarding your proctored exam will be forthcoming from the Assessment Administrator.

The exam will be open book/open notes and is accessible only during the final exam period. Your proctor will enter the password to start the exam.

Final Exam Duration: **90 minutes**

The exam is **closed book and closed notes**. Please note that using internet resources or AI tools such as ChatGPT is not allowed.

The exam features **essay questions** and **file response questions**. For the file response questions, you are allowed to use your phone camera and take a picture, uploading it to your email, and then attach it as an answer to the question.

Special Instruction: During the exam, students will need to complete drawings on sheets of paper, photograph the drawings, and upload the photos into the exam. In order to transfer the photos from the phone to the computer, the student should email the photos to themselves and then access their email account on the computer.

Note: Use the Practice Exam link (in Module 7) to try answering essay questions and uploading files to practice with unlimited time.

Evaluation of Students and Grading Information

To attain excellence ("A" work), you will be expected to develop your own analyses and comparisons. More detailed criteria are listed later in this Syllabus section.

Basis for Grades

There are two components to your grades.

- **Module Assignments:**
 - Most of the content of the course will be explored through module assignments. You are permitted to submit and resubmit your assignment unlimited times to turn in your improved work, as long as before the assignment deadline for that module.
 - **The module assignments in total are worth 50% of the course grade.** The teaching team expects your understanding to improve throughout the course.:

- Assignment 1: %
- Assignment 2: %
- Assignment 3: %
- Assignment 4: %
- Assignment 5: %
- Assignment 6 %
- Access and upload the assignment inside each module.
- **Proctored Final Exam:**
 - The final exam mainly provides you the opportunity to show what theoretical and algorithmic concepts you have learned. It is worth 50% of the course grade.
 - More details will be provided when the final exam is closer..
 - Complete the final exam in the “Module 7 – Final Exam” module.

Grade Computations

The course grade will be computed from the following:

Graded Items	Percentage of Grade
Module Assignments	50%
Proctored Final Exam	50%
Total	100%

Ungraded Items

- **Ungraded Discussion Forums:**

There are ungraded discussion forums throughout the course. You are encouraged to share your knowledge and learn from your peers. Discussion forums are provided for your benefit. Some discussion forums involve the instructional staff; others are among students.
- **Live Classroom Sessions:**

Live Classroom sessions will be offered during this course in Modules 1 through 6. In each module, students have one or two Live Classroom session with the instructor and/or may have another Live Classroom (or problem-solving session) with the facilitator. Days/times will be posted in the Study Guide and the "Announcements" area.

 - Your participation, while not mandatory, will be valuable to you and the class. To participate in the Live Classroom discussion, you will need to go to the "Live Classroom/Offices" area.
 - Live Classroom sessions will be recorded and archived for further viewing. You can go to the "Live Classroom Recordings" area to view the recordings.

Submission Schedule

To keep the course running smoothly for everyone, there is a schedule of when assignments should be submitted. If you anticipate being unable to complete an item by its deadline due to circumstances beyond your control, please dialog with your facilitator about this in advance of

the deadline (unless it is an emergency which makes this impossible, of course). We may request additional documentation but we will be happy to help. Otherwise, no regular credit is due. Some credit may be given at the end of the semester depending on your overall performance. You also need to request feedback.

Course Policies and Academic Conduct

Academic Integrity: Plagiarism is the passing off of another's words or ideas as your own, and it is a serious academic offense. Plagiarism and cheating also defeat the purpose of getting an education. Plagiarism and cheating cases will be handled in accordance with the disciplinary procedures described in the Academic Conduct Code. You are expected to know and abide by the code, which can be read online: [Academic Conduct Code](#). Penalties range from failing an assignment or course (first offense) to suspension or expulsion from BU. If in doubt, cite your source. If you have any questions about academic integrity, please ask your instructor.

Incidents of academic misconduct will be reported to the Academic Conduct Committee (ACC). The ACC may suspend/expel students found guilty of misconduct.

Important Message on Final Exams

Dear Boston University Computer Science Online Student,

As part of our ongoing efforts to maintain the high academic standard of all Boston University programs, including our online MSCIS degree program, the Computer Science Department at Boston University's Metropolitan College requires that each of the online courses includes a proctored final examination.

By requiring proctored finals, we are ensuring the excellence and fairness of our program. The final exam is administered online.

Specific information regarding final-exam scheduling will be provided approximately two weeks into the course. This early notification is being given so that you will have enough time to plan for where you will take the final exam.

I know that you recognize the value of your Boston University degree and that you will support the efforts of the University to maintain the highest standards in our online degree program.

Thank you very much for your support with this important issue.

Regards,

Professor Lou Chitkushev, Ph.D.
Associate Dean for Academic Affairs

Boston University Metropolitan College

Disability and Access Services

In accordance with university policy, every effort will be made to accommodate students with respect to speech, hearing, vision, or other disabilities. Any student who may need an accommodation for a documented disability should contact [Disability and Access Services](#) at 617-353-3658 or at access@bu.edu for review and approval of accommodation requests.

Once a student receives their accommodation letter, they must send it to their instructor and/or facilitator each semester. They must also send a copy to their Faculty & Student Support Administrator, who may need to update the course settings to ensure accommodation is in place. Accommodation cannot be implemented if the students do not send their letters.