Boston University Metropolitan College

Data Structures with Java
Boston University

MET CS342, Spring 2026
Days: Thursdays, 6:00-8:45 PM ET
Instructor: Jinsong Liang
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Office Hours: after class or appointment
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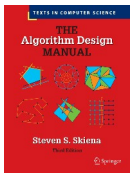
Course Description

This course covers the elements of data structures and algorithms with Java implementation, including complexity analysis, linked lists, stacks, queues, tables, priority queues, trees, graphs, sorting, searching and sorting algorithms, backtracking, dynamic programming, and JCF.

Textbook

The algorithm design manual, 3rd edition, by Skiena.
Freely downloadable from BU library



Grading

Programming assignments	55%
Mid-term Exam	20%
Final Exam	25%

Program Evaluation Criteria

Program correctness 80%
Documentation 10%
Readability 10%

Weekly Schedule:

The following schedule is tentative and subject to change (including topics, assignments, and exams, subject to change).

Week	Topic	Reading
1	Introduction, complexity analysis, linked lists	Chapter 1, 2
2	Stacks and queues	Chapter 3
3	Trees	Chapter 3
4	Trees, Priority queue	Chapter 3
6	Sorting	Chapter 4
7	**Mid-term exam**	
8	Hash tables	Chapter 6
9	Graphs	Chapter 7
10	Graphs	Chapter 7, 8
11	Backtracking	Chapter 9
12	Dynamic programming	Chapter 10
14	Data structures and algorithms in JCF	
15	**Final Exam**	

Important Notes

- 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. One point will be deducted from the grade for each class a programming assignment is late after a one-class grace period.

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/code.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.