SUNY at New Paltz, Fall 2025

CPS551-01: Programming and Data Structures

Monday, Thursday: 11:00 am - 12:15 pm, SH 259

Instructor:

Professor Keqin Li
Science Hall 249, X3534, lik@newpaltz.edu

Office Hours:

Tuesday, Friday: 9:00 - 11:00 am

Textbook:

Michael Main
Data Structures and Other Objects Using Java
fourth edition, Pearson, 2012, ISBN-10: 0132576244.
Webpage of the book: https://www.cs.colorado.edu/~main/dsoj.html

Recommended Book on Java:

Walter Savitch
Java: An Introduction to Problem Solving and Programming
eighth edition, Pearson, 2018, ISBN-13: 9780134462035.

Evaluation:

- Programming assignment: 30%
- Midterm Examination (Monday, 10/20/2025): 30%
- Final Examination (Thursday, 12/18/2025): 40%

Student Learning Outcomes (Course Objectives):

Upon completion of this course, students will be able to:

1. Understand and program using basic data structures
2. Understand and implement elementary data structures related algorithms

Course Outline:

The course covers most topics in Chapters 1-9 and additional topics from Chapters 10-12 if time permits.

- Chapter 1: Basic Java Programming (Assignment #1, Week 1)

- Chapter 2: Classes and Objects (Assignment #2, Week 2 & 3)
- Chapter 3: Arrays (Assignment #3, Week 4 & 5)
- Chapter 4: Linked Lists (Assignment #4, Week 6 & 7)
- Chapter 5: Generic Programming (Week 8)
- Chapter 6: Stacks (Assignment #5, Week 9 & 10)
- Chapter 7: Queues (Week 11)
- Chapter 8: Recursion (Assignment #6, Week 12)
- Chapter 9 & 10: Binary Trees and Binary Search Trees (Week 13 & 14)
- Chapter 11 & 12: Searching and Sorting (Week 15)

Academic Policies:

Academic integrity and related academic policies and procedures can be found at http://www.newpaltz.edu/advising/policies.html.

Student Evaluation of Instruction (SEI):

Please complete the form online during 11/24/2025 - 12/8/2025.
