

JAMESTOWN COMMUNITY COLLEGE

State University of New York

INSTITUTIONAL COURSE SYLLABUS

Course Title: Data Structures

Course Abbreviation and Number: CSC 1600

Credit Hours: 4

Course Type: Lecture

Course Description: This course continues the study of algorithm development involving data structures, data abstraction, recursion, sorting, and searching. Topics in data structures include stacks, queues, linked lists, and trees. Large programming systems with multiple modules are designed and implemented using an object-oriented programming language such as Java or Python.

Prerequisite: CSC 1590 and **Eligibility:** MAT 1710

Student Learning Outcomes:

Students who demonstrate understanding can:

1. Design a program given specific data storage and efficiency requirements.
 2. Apply knowledge of the object oriented programming skills to write and debug programs to solve the given tasks using data structures such as stacks, queues, linked lists, trees and recursion.
 3. Analyze different methods of meeting programming objectives and use Big O evaluation methods to identify the relative efficiencies of different solutions.
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Topics Covered:

- Software Development Cycle
 - Inheritance
 - Array Based Lists
 - Linked Lists
 - Recursion
 - Stacks
 - Queues
 - Search Algorithms
 - Binary Trees
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Information for Students

- Expectations of Students
 - [Civility Statement](#)
 - [Student Responsibility Statement](#)
 - [Academic Integrity Statement](#)
 - [Accessibility Services](#)
Students who require accommodations to complete the requirements and expectations of this course because of a disability must make their accommodation requests to the Accessibility Services Coordinator.
 - [Get Help: JCC & Community Resources](#)
 - [Emergency Closing Procedures](#)
 - Course grade is determined by the instructor based on a combination of factors, including but not limited to, homework, quizzes, exams, projects, and participation. Final course grade can be translated into a grade point value according to the following:

A=4.0	B+=3.5	B=3	C+=2.5	C=2	D+=1.5	D=1	F=0
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 - Veterans and active duty military personnel with special circumstances (e.g., upcoming deployments, drill requirements, VA appointments) are welcome and encouraged to communicate these to the instructor.
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Effective Date: Spring 2025