

**JOLIET JUNIOR COLLEGE
DEPARTMENT OF COMPUTER INFORMATION
AND OFFICE SYSTEMS**

COURSE SYLLABUS

Course Prefix and Number	CIS 269
Course Title	Data Structures
Curriculum	Computer Information Systems
Semester Hours	4
Lecture	4
Lab	0
Prerequisites	CIS 261 or consent of department

Catalog Description

This course will cover advanced topics in data structures. Abstract data types include lists, stacks, queues, trees, and graphs. Recursion, memory management, and complexity analysis will also be covered in this course.

Course Objectives: See attached

Prepared by:

Reviewed by:

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3/06

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Date

STUDENT MATERIALS

A. Textbook:

Title: Data Structures and Algorithms in Java (Second Edition)

Author: Adam Drozdek

Publisher: Course Technology

B. Other Required Materials

Student Evaluation (Type of Grading)

PROJECTS

Students will be expected to develop large-scale programming projects.

EXAMS AND WHAT TYPE:

Quizzes and Exams

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TOPICAL OUTLINE

Week	Unit, Topic, Class Activity (Indicate approximate time allotment for each topic/unit)	Comments
1	Object-Oriented Programming concept	
2	Complexity Analysis	
3	Computing BIG-O	
4	Reading from and writing to data files	
5	Linked Lists	
6	Stacks and Queues	
7	Use of Recursion	
8	Binary Trees / Multiway Trees	
9	Midterm Project and Midterm Exam	
10	ADT Graphs	
11	Searching and Sorting	
12	Hashing	
13	Data Compression	
14	Memory Management/Pointers	
15	String Processing	
16	Final Project	

OBJECTIVES

Upon completion of the course, the student will be able to:

1. The student will learn the concept of Object-Oriented Programming.
2. The student will use the complexity analysis.
3. The student will create program using lists.
4. The student will create program using stacks and queues.
5. The student will create program using trees.
6. The student will create program using graphs.
7. The student will learn and use the concept of recursion.
8. The student will explore the memory management.