Data Structures and Algorithms I – C949

Overview
Data Structures and Algorithms I covers the fundamentals of dynamic data structures, such as bags, lists, stacks, queues, trees, hash tables, and their associated algorithms. With Python software as the basis, the course discusses object-oriented design and abstract data types as a design paradigm. The course emphasizes problem solving and techniques for designing efficient, maintainable software applications. Students will implement simple applications using the techniques learned. This course has one prerequisite: C482 Software 1 (Java).

Competencies
- **Data Types**
  The graduate determines the appropriate implementation of data types to design efficient and maintainable software.

- **Data Structures**
  The graduate determines which dynamic data structures are applicable for developing scalable software.

- **Algorithms**
  The graduate decides on an efficient algorithm for developing usable software.

Learning
Getting Started
Welcome to Data Structures and Algorithms I! This course uses the Zybooks learning resource, which contains all the necessary reading materials and interactive learning activities. For the best understanding of the course content, complete each assigned module. To help you track your progress, we suggest you follow the pacing guide identified at the beginning of the course. Competency will be demonstrated by the successful completion of an objective assessment. Select the "Go to Course Material" button to begin.

Assessments

- **Pre-Assessment - Data Structures and Algorithms I (GJO1)**
  Status: Not Attempted
  # of Items: 0
  Time Allocated: 0 minutes
  Code: PGJO
  Take Now

- **Objective Assessment: Data Structures and Algorithms I**
  Status: Not Attempted
  # of Items: 0
  Time Allocated: 0 minutes
  Code: GJO1

A score of Competent or Exemplary is required to pass all assessments. Pasing a preassessment does not guarantee you will pass the high-stakes assessment. On objective assessments, you will be charged a retake fee for the third attempt and every attempt thereafter. For more information click here.