Introduction: Course Overview & Review
- Inheritance
- Polymorphism
- Abstract Classes and Abstract Methods
- Interfaces
- Exception Handling
- Recursion

**HW0: Programming Assignment #0 (Bank Accounts)**

Chapter 16: Sorting, Searching, and Algorithm Analysis
- Review of Sorting Algorithms
  - the selection sort
  - the bubble sort
  - the insertion sort
  - the quicksort algorithm
- Review of Search Algorithms
  - the sequential search algorithm
  - the binary search algorithm
  - a recursive binary search
- Analysis of Algorithms
  - complexity of algorithms
  - worst case and average case analysis
  - Big O Notation

**HW16: Programming Assignment #1 (Sorting and Searching)**

Chapter 17: Generics
- Introduction to Generics
- Writing a Generic Class
- Passing Objects of a Generic Class to a Method
- Writing Generic Methods
- Constraining a Type Parameter in a Generic Class
- Inheritance and Generic Classes
- Defining Multiple Type Parameters
- Generics and Interfaces
- Erasure
- Restrictions on the use of Generic Types

**HW17: Programming Assignment #2 (Generics)**

Chapter 18: Collections and the Stream API
- Introduction to the Java Collections Framework
- Lists
- Sets
- Hashing Algorithms
- Maps
- The Collection Class
- The Stream API

**HW18: Programming Assignment #3 (Collections)**

Examination #1:
Chapter 19: Linked Lists
- Introduction to Linked Lists
- Operations on Linked Lists
- Doubly Linked and Circularly Linked Lists
- Recusion on Linked Lists

HW19: Programming Assignment #4 (Linked Lists)

Chapter 20: Stacks and Queues
- Stacks and Their Applications
- Array Implementation of Stacks
- Linked List Implementation of Stacks
- Queues and Their Applications
- Array Implementation of Queues
- Linked List Implementation of Queues
- Generic Implementation of Stacks and Queues
- Queues and Breadth-First Search

HW20: Programming Assignment #5 (StacksAndQueues)

Examination #2:

Chapter 21: Binary Trees, AVL Trees, and Priority Queues
- Binary Trees and Their Applications
- Binary Search Trees
- AVL Trees
- Priority Queues

HW21: Programming Assignment #6 (Complete Binary Tree - Heap Order Priority)

Final Examination