



Course Name: Data Structures

Course Number: CS 261 (Online)

Credits: 4

Instructor name: Randy Scovil

Instructor email: scovilr@oregonstate.edu

Course Schedule:

Week	Course Activities
1	<ul style="list-style-type: none">• Module 1 - Overview• Syllabus Quiz (Due: June 30, 2021)• Assignment 0: Introduction Environment Setup (Due: June 30, 2021)• Exploration: Intro to Data Structures• Exploration: Some Opening Thoughts• Exploration: Big O Introduction• Exploration: Big O Examples• Assignment 1: Python Programming Practice (Due: July 07, 2021)• Review - Module 1
2	<ul style="list-style-type: none">• Module 2 - Overview• Exploration: An Overview of ADTs• Exploration: Python's List• Assignment 2: Implementation of Dynamic Array and ADTs using Dynamic Array and Amortized Analysis (Due: July 14, 2021)• Review - Module 2
3	<ul style="list-style-type: none">• Module 3 - Overview• Exploration: Introduction to Linked Lists• Exploration: Stacks, Queues and Deques• Assignment 3: Implementation of Linked Lists and Various ADTs Using Linked Lists (Due: July 21, 2021)• Exploration: Encapsulation and Iterators• Exploration: Iterator Example• Exploration: Binary Search• Review - Module 3
4	<ul style="list-style-type: none">• Module 4 - Overview• Exploration: Trees• Exploration: Binary Trees• Exploration: BST Operations• Assignment 4: Binary Search Tree Implementation (Due: July 28, 2021)• Quiz 1 (Available from July 15 to 19, 2021 and covers materials from Week 1 to Week 3)• Review - Module 4

5	<ul style="list-style-type: none"> • Module 5 - Overview • Exploration: AVL Trees and Balancing • Exploration: AVL Tree Rotations • Exploration: Rotation Implementation • Exploration: Priority Queues and Heaps • Exploration: Heap Implementation • <i>Assignment 5: AVL, Hashmap and Heap Implementation (Portfolio Assignment) (Due: August 04, 2021)</i> • Review - Module 5
6	<ul style="list-style-type: none"> • Module 6 - Overview • Exploration: Introduction to Maps and Hash Tables • Exploration: Hash Table Collisions • Review - Module 6
7	<ul style="list-style-type: none"> • Module 7 - Overview • Exploration: Graphs • Exploration: Working with Graphs • <i>Assignment 6: Graph and Graph Algorithms Implementation (Due: August 11, 2021)</i> • Review - Module 7
8	<ul style="list-style-type: none"> • <i>Quiz 2 (Available from August 08 to 12, 2021 and covers materials from Week 4 to Week 7)</i>