



Course Name: Data Structures

Course Number: CS 261 (Online)

Credits: 4

Instructor names: Tim Alcon & Samina Ehsan

Instructor email: alcon@oregonstate.edu & ehsans@oregonstate.edu

Course Schedule:

Week	Course Activities
1	<ul style="list-style-type: none">Module 1 - OverviewExploration: Intro to Data StructuresExploration: Some Opening ThoughtsSyllabus Quiz (Due: March 12, 2021)Assignment 0: Introduction Environment Setup (Due: January 13, 2021)Review - Module 1
2	<ul style="list-style-type: none">Module 2 - OverviewExploration: Big O IntroductionExploration: Big O ExamplesAssignment 1: Python Programming Practice (Due: January 27, 2021)Review - Module 2
3	<ul style="list-style-type: none">Module 3 - OverviewExploration: An Overview of ADTsExploration: Python's ListAssignment 2: Implementation of Dynamic Array and ADTs using Dynamic Array and Amortized Analysis (Due: February 03, 2021)Review - Module 3
4	<ul style="list-style-type: none">Module 4 - OverviewExploration: Introduction to Linked ListsExploration: Stacks, Queues and DequesAssignment 3: Implementation of Linked Lists and Various ADTs Using Linked Lists (Due: February 17, 2021)Review - Module 4
5	<ul style="list-style-type: none">Module 5 - OverviewExploration: Encapsulation and IteratorsExploration: Iterator ExampleExploration: Binary SearchReview - Module 5
6	<ul style="list-style-type: none">Module 6 - OverviewExploration: TreesExploration: Binary TreesExploration: BST OperationsAssignment 4: Binary Search Tree Implementation (Due: February 24, 2021)Quiz 1 (Available from Feb 10 to 14, 2021 and covers materials from Week 1 to Week 5)Review - Module 6

Week	Course Activities
7	<ul style="list-style-type: none"> Module 7 - Overview Exploration: AVL Trees and Balancing Exploration: AVL Tree Rotations Exploration: Rotation Implementation Review - Module 7
8	<ul style="list-style-type: none"> Module 8 - Overview Exploration: Priority Queues and Heaps Exploration: Heap Implementation Review - Module 8
9	<ul style="list-style-type: none"> Module 9 - Overview Exploration: Introduction to Maps and Hash Tables Exploration: Hash Table Collisions Assignment 5: AVL, Hash Map and Heap Implementation (Portfolio Assignment) (Due: March 10, 2021) Review - Module 9
10 and final week	<ul style="list-style-type: none"> Module 10 - Overview Exploration: Graphs Exploration: Working with Graphs Assignment 6: Graph and Graph Algorithms Implementation (Due: March 17, 2021) Quiz 2 (Available from March 13 to 17, 2021 and covers materials from Week 6 to Week 10) Review - Module 10