**COM2067 Data Structures**

**2024-2025 Fall**

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**Textbook:**  Data Structures Using C, Second Edition, Reema Thareja, Oxford University Press

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| **Week** | **Tentative Schedule** | **LAB** |
| 1 | Introduction | - |
| 2 | Chapter 2: Introduction to Data Structures and Algorithms  Chapter 3: Arrays | - |
| 3 | Chapter 4: Strings  Chapter 5: Structures and Unions | LAB1 |
| 4 | Chapter 6: Linked Lists | Q1 |
| 5 | Chapter 7: Stacks | LAB2 |
| 6 | October 29, 2024 Republic Day | Q2 |
| 7 | Chapter 8: Queues | LAB3 |
| 8 | Midterm Exam | Q3 |
| 9 | Chapter 9: Trees  Chapter 10: Efficient Binary Trees | - |
| 10 | Chapter 10: Efficient Binary Trees | LAB4 |
| 11 | Chapter 11: Multi-way Search Trees | Q4 |
| 12 | Chapter 12: Heaps | LAB5 |
| 13 | Chapter 14: Searching and Sorting | Q5 |
| 14 | Chapter 15: Hashing and Collision | Q6 |
| 15 | Review |  |

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| **Grading** | |
| Midterm | %15 |
| Lab | %25 (%10 Lab (5), %15 Quiz (5)) |
| Final | %60 |

**Learning Outcomes:**

1. Students will be able to use stack data structure and recursion and their properties.

2. Students will be able to use queue and list data structures and their properties.

3. Students will be able to use tree data structures (binary search trees, AVL trees, Red-Black trees) and and their properties.

4. Students will be able to use heaps, sorting and searching algorithms.