## Data Structure and Algorithms

Course # COMP 2041

Credits 6

## Pre-requisites and Co-requisites: None

This course examines the design, analysis, and implementation of data structures and algorithms to solve engineering problems using computer programming languages. It focuses on Elementary data structures, (including arrays, stacks, queues, and lists), advanced datastructures (including trees and graphs) and the algorithms used to manipulate these structures.

## **Course Learning Outcomes.**

Upon completion of the course, the students should be able to:

- Explain the concept of data structures, and understand different data structures and algorithms
- Analyze space and time complexity of different data structures
- Explain the suitability of different data structures for different problems
- Explain different algorithms to solve different problems
- Implement different data structures using computer programing languages

## **Course Assessments and Grading**

Item	Weight
Activities	10%
Assignments/Presentations	15%
Quizzes	25%
Midterm exam Paper	20%
Final exam Paper (Project + Exam)	30%