

CSC 311: Design and Analysis of Algorithms

- Credit Hours (Lectures, Lab, Tutorial): **3** (3 + 0 + 1).
- Prerequisites: CSC 281.

Course content: Models of Computations (includes a brief look at Turing machines). Mathematical foundations. Techniques for designing and analyzing algorithms. Sorting, order statistics, and hashing. Algorithm design paradigms, such as, greedy, divide-and-conquer, backtracking, dynamic programming, and randomization. Search Methods. Graph Algorithms. Time and space complexity classes. Introduction to NP-completeness.