

Faculty of Computers and Information Technology

Analysis and Design of Algorithms

Information :

Course Code : CSC312

Level : Undergraduate

Course Hours : 3.00- Hours

Department : Faculty of Computers and Information Technology

Description :

The course provides the fundamentals of algorithm design and analysis, the basics of analyzing algorithms for correctness, time and space bounds. Up-completeness theory, the notion of intractable problems, approximation measures, polynomial time approximation, and algorithm complexity. Topics covered in this course are analyzing and designing algorithms (sorting algorithms), complexity types and analysis, recurrence equations iteration methods, heap property function and operations, search algorithms, graph concepts and operations, general greedy method., branch & bound algorithms, dynamic programming and string and pattern matching. Hands-on experience is provided through a series of exercises, assignments, and projects.