COT 6405 Analysis of Algorithms

Credits: 3 credits


Specific course information:

Catalog description: Design and analysis of algorithms from several areas of computer science. Topics include advanced data structures, dynamic programming, greedy algorithms, approximation algorithms.

Prerequisites: Prerequisites: COT4400 Design and Analysis of Algorithms

Specific goals for the course: To acquire working knowledge of analysis and design techniques. To learn different methods for designing algorithms for hard problems.

Brief list of topics to be covered:

1. Introduction
2. Foundations: Growth of Functions and Recurrences
3. Advanced Data Structures
4. Divide and Conquer
5. Network Flow
6. Greedy Algorithms
7. Dynamic Programming
8. Probabilistic Analysis and Randomized Algorithms
9. NP-Completeness
10. Approximation Algorithms