CSCE 629 - Analysis of Algorithms

CSCE 629 - Analysis of Algorithms (3 credit hours) Prerequisites: CSCE 221 (Data Structures & Algorithms) and CSCE 222 (Discrete Structures) Course Description: Advanced study of algorithms and their analysis. Topics include asymptotic analysis, divide-and-conquer algorithms, dynamic programming, greedy algorithms, graph algorithms, network flows, linear programming, NP-completeness, and approximation algorithms. Learning Objectives: - Analyze the time and space complexity of algorithms - Design efficient algorithms for computational problems - Understand advanced algorithmic techniques - Apply mathematical tools for algorithm analysis Grading: - Homework: 30% - Midterm Exam: 30% - Final Exam: 40% Textbook: "Introduction to Algorithms" by Cormen, Leiserson, Rivest, and Stein