

FEB. 01 2002

JAN 29 2002

GRANDE PRAIRIE REGIONAL COLLEGE
DEPARTMENT OF COMPUTING, MATHEMATICS and STATISTICAL
Sciences

Computing Science 2040

WINTER SEMESTER 2002

Title : Algorithms I

Schedule : **Lecture** A3 T R 8:30 - 9:50 in J203
LAB L1 F 9:00 - 9:50 in J203

Instructor : LakshmaREDDY Ganta
Office : J220
Phone : 539 2850

Consultations : TBA

Calendar Description of the Course:

3(3-0-1) UT. The first course of a two course sequence on algorithm design and analysis stream, with the emphasis on the fundamentals such as searching, sorting and graph algorithms. Examples include: divide and conquer, dynamic programming, greedy methods, backtracking, and local search methods. Analysis techniques will be developed to aid in judging program efficiency.

Prerequisite: CS 1150, 2720 and MA 1130 or equivalent

This course is designed to provide an introduction to the scientific side of computing science and to provide students with the opportunity to learn the basic tools needed to develop efficient algorithms. Topics to be covered include: Algorithms Analysis-running times, Big-O, Big-Ω, Big - Θ, recursion, induction; Algorithm design techniques- divide and conquer, greedy algorithms, dynamic programming; Graph algorithms and data structures; Limits of computation-intractability, P and NP

Text: Computer Algorithms Introduction to Design & Analysis (Third Edition) by Sara Baase and Allen Van Gelder

Marking:

Quizzes/Assignments : 28 %
Term test : 34 %
Final : 38 %