GRANDE PRAIRIE REGIONAL COLLEGE
COMPUTING SCIENCE 2720
WINTER 1998

Title   :   Formal Systems and Logic in Computing Science

Schedule   :   Lecture   A3   T R   9:30 - 10:50   in J203

Labs   AL1   W   15:00 - 17:50   in A305
AL2   R   15:00 - 17:50   in A305

Seminars   AS1   W   13:00 - 13:00   in   J202
AS2   W   14:00 - 14:00   in   J202

Instructor :   LakshmaREDDY   Ganta
Office   :   J220
Phone   :   539 2850

Consultations: Monday   9:00 - 11:00
Thursday   13:30 - 14:50   and any time that is mutually convenient

Calendar Description of the Course:

3(3-1s-3) UT. An introduction to the tools of set theory, logic, and induction, and their use in the practice of reasoning about algorithms and programs. Basic set theory. The notion of a function. Counting. Propositional and predicate logic and their proof systems. Inductive definitions and proofs by induction. Program specification and correctness. Prerequisite: CMUT 1140 or equivalent

This course is designed to introduce computing science students to formal systems and logic, and to show how these tools are used in computing science and practice. Students will be expected to achieve strong familiarity with ideas and concepts from both propositional and predicate logic: including Truth tables, Truth Trees, TT Short Cut Form as well as the use of Natural Deduction Derivations for both Propositional and Predicate logic. Mizar proof system. Other topics to be covered may include: theory of sets, functions and relations; combinatorics; graph theory; boolean algebra; Proof techniques; circuit design and minimization; introduction to formal language theory, automata theory and Finite state machines.

Text: Discrete Mathematics and its Applications (Third Edition)
by: Kenneth H. Rosen

I will be placing some relevant texts and other supplemental readings as required on reserve in the library

Marking:

Assignments	: 25 %
Quizzes	: 10 %
Midterm 1	: 15 %
Midterm 2	: 15 %
Final exam	: 35 %

Special Notes :

1) When necessary, lab time will be utilised for lecturing on specific mizar proof system.

2) No Late assignments will be accepted.

3) The student is responsible for adhering to all requirements as specified for each assignment.