GRANDE PRAIRIE REGIONAL COLLEGE

DEPARTMENT OF COMPUTING, MATHEMATICS and STATISTICAL
Sciences

Computing Science 2720
WINTER SEMESTER 2003

Title   :   Formal Systems and Logic in Computing Science

Instructor: Dr. Reddy Ganta
Office   :   J220
Phone   :   539 2850

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: CS 1140 or equivalent

This course is designed to introduce computing science students
to formal systems and logic. Students will be expected to
achieve strong familiarity with ideas and concepts from
propositional , predicate logic and Mizar proof system. Other
topics to be covered include: theory of sets; functions and
relations; induction; program correctness; graph theory; boolean
algebra; circuit design and finite state machines.

Text: i)   Discrete Mathematics and Its Applications (Fifth
           Edition) by Kenneth H. Rosen.
      ii) Student Solutions Guide for Discrete Mathematics and
           Its Applications (optional).

Marking:

        Assignments/Quizzes   : 30 %
        Term test   : 32 %
        Final   : 38 %

Special Notes:

1)   When necessary, lab time will be utilized for lecturing on
     specific topics and Mizar proof system.
2)   No Late assignments will be accepted.