

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

**Computing Science 2720**

WINTER SEMESTER 2004

**Title** : Formal Systems and Logic in Computing Science

**Instructor:** Dr. Reddy Ganta

**Office** : J220

**Phone** : 539 2850

**Calendar Description of the Course:**

3(3-1-3) 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.

**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.