# GRANDE PRAIRIE REGIONAL COLLEGE

*DEPARTMENT OF Science*

*Formal Systems and Logic in Computing Science*
*CS2720 3(3-1-1.5)*

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|---|---|---|---|---|---|
| **Room:** | Lecture: | CS2720 A3 | J 203 | TR | 10:00 – 11:20 |
| | Lab: | CS2720 L1 | J 101 | M | 15:30 – 16:50 |
| | Seminar | CS2720 S1 | J 226 | M | 14:30 – 15:20 |

**Instructor**: Dr. Reddy Ganta, J220, Ph. 539-2850 , rganta@gprc.ab.ca

**Calendar Description of the Course:**

An introductory course to present 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 system will be studied. Inductive definitions and proofs by induction will be covered along with program specification and correctness.

**Prerequisite: CS 1140 or equivalent**
**Transfer:** UA, UC, UL, AU, CU, KUC, AUC.

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:** Discrete Mathematics and Its Applications (Sxith Edition) by Kenneth H. Rosen.

Marking:

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|---|---|
| Assignments | 15% |
| Quizzes | 15% |
| Mid Term | 25% |
| Final Exam | 45% |

GRADES: Your final Alpha Grade will be determined using the following approximate Percentage Conversion:

| Alpha Grade | Approximate Percentage Conversion |
|---|---|
| A+ | 95 – 100 |
| A | 90 – 94 |
| A- | 85 – 89 |
| B+ | 80 – 84 |
| B | 75 – 79 |
| B- | 70 – 74 |
| C+ | 66 – 69 |
| C | 62 – 65 |
| C- | 58 – 61 |
| D+ | 54 – 57 |
| D | 50 – 53 |
| F | 0 – 49 |

**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.

3) Calculators will not be allowed in quizzes and exams.

4) Students who miss the mid-term exam or quiz for a valid reason, such as illness, will have the weight transferred to the final exam.