

DEPARTMENT SCIENCE

COURSE OUTLINE – WINTER 2016

CS2720 (A3): Formal Systems and Logic in Computing Science 3 (3-1-1.5) 82.5 Hours for 15 weeks

INSTRUCTOR: Reddy Ganta PHONE: 780-539-2850 OFFICE: J220 E-MAIL: RGanta@gprc.ab.ca

OFFICE HOURS: TBA

CALENDAR DESCRIPTION: 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(S)/COREQUISITE: 1000-Level CST course

REQUIRED TEXT/RESOURCE MATERIALS: Discrete Mathematics and Its Applications by Kenneth H. Rosen.

DELIVERY MODE(S): Lectures: A3 TR 10:00-11:20 J227

Lab: L1 M 15:30-4:50 J201 Lab: S1 M 2:30-4:20 J227

COURSE OBJECTIVES: This course provides an introduction to: set theory, logic and induction, and their use in the practice of reasoning about algorithms and programs. The main topics covered are: Basic set theory, The notion of a function, Counting, Propositional and predicate logic. Inductive definitions and proofs by induction will be covered along with program specification and correctness.

LEARNING OUTCOMES: To demonstrate the basic knowledge of set theory, logic and induction, and their use in the practice of reasoning about algorithms and programs. To demonstrate a conceptual knowledge of the concepts and principles involved.

TRANSFERABILITY: Please consult the Alberta Transfer Guide for more information (www.albertatransfer.com)

** Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. **Students** are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability

EVALUATIONS: Assignments 10%

Quizzes 25%

Midterm 26% TBA

Final Exam 39% April 15-26 inclusive (including Saturdays

and evenings)

GRADING CRITERIA: Please note that most universities will not accept your course for transfer credit **IF** your grade is **less than C-**. This means **DO NOT GET LESS THAN "C-**" **IF YOU ARE PLANNING TO TRANSFER TO A UNIVERSITY.** And less than a C- may not be accepted as a prerequisite at the college and elsewhere.

Alpha	4-point	Percentage	Alpha	4-point	Percentage
Grade	Equivalent	Guidelines	Grade	Equivalent	Guidelines
A+	4.0	95-100	C+	2.3	66-69
A	4.0	90-94	С	2.0	62-65
A-	3.7	85-89	C-	1.7	58-61
B+	3.3	80-84	D+	1.3	55-57
В	3.0	75-79	D	1.0	50-54
B-	2.7	70-74	F	0.0	00-49

COURSE SCHEDULE/TENTATIVE TIMELINE: Not all sections in each chapter are covered in this course

Week 1	Chapter 1
Week 2	Chapter 1
Week 3	Chapter 1/2
Week 4	Chapter 2
Week 5	Chapter 2/3
Week 6	Chapter 3
Week 7	Chapter 5
Week 8	Reading week
Week 9	Chapter 5 and Midterm
Week 10	Chapter 9
Week 11	Chapter 9
Week 12	Chapter 12
Week 13	Chapter 12/13
Week 14	Chapter 13
Week 15	Review

STUDENT RESPONSIBILITIES: Students are responsible for all lecture material, labs and readings. Students are expected to practice the material by doing problems from the textbook. Assignments are not accepted if handed in late. If the midterm is missed due to illness the weight will be put on the final (i.e. the final will be worth 65%). If the final is missed due to illness it will be deferred (see calendar for information). A doctor's note and a phone message or email will be required in both cases.

Cellphone use is not permitted in the classroom. This includes texting. Please turn off and put away your cellphone during class. You may be asked to leave the classroom if using a cellphone.

No recording of any kind is allowed in the class, seminar or during consultation with the instructor.

STATEMENT ON PLAGIARISM AND CHEATING:

Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the College Admission Guide at http://www.gprc.ab.ca/programs/calendar/ or the College Policy on Student Misconduct: Plagiarism and Cheating at www.gprc.ab.ca/about/administration/policies/**

**Note: all Academic and Administrative policies are available on the same page.