DEPARTMENT OF SCIENCE

COURSE OUTLINE – MA 1600 A2/B2: HIGHER ARITHMETIC (3-1-0) UT

FALL 2015

INSTRUCTOR:	Brian Redmond	**PHONE:**	780 539-2093
OFFICE:	J206	**E-MAIL:**	bredmond@GPRC.ab.ca

OFFICE HOURS: M T W R   10:00am-11:00am

DELIVERY MODE(S):	Lecture A2/B2	M	1:00-2:20	J226
	Lecture A2/B2	F	11:00-12:50	J226
	Seminar A2	T	1:00-1:50	J227
	Seminar B2	F	8:30-9:20	J226

PREREQUISITE(S)/COREQUISITE:

Mathematics 30-1 or equivalent or Mathematics 30-2 or equivalent

REQUIRED TEXT/RESOURCE MATERIALS:

Miller, Heeren, Hornsby, Heeren: Mathematical Ideas 13th Edition, Pearson, 2016

CALENDAR DESCRIPTION:

Elementary Number Theory, Numeration Systems, Number Systems and Elementary Probability Theory are included in this course.

COURSE OBJECTIVES:

This course is designed to provide students with a broader and deeper understanding of the mathematics underlying the elementary school curriculum. An emphasis will be placed on problem-solving and non-calculator based techniques.

LEARNING OUTCOMES: By the end of the course, students will be able to:

- Apply and identify a variety of strategies for solving (mathematical) problems
- Recognize number patterns, including arithmetic and geometric sequences, and work with corresponding formulas in problem-solving applications
- Apply basic concepts and constructions of set-theory and use Venn diagrams to depict set relationships
- Count and perform basic arithmetic operations (addition, subtraction, multiplication and division) in non-standard base number systems
- Test for divisibility and primality, factor composite numbers, calculate greatest common divisors and least common multiples using multiple techniques
- Represent a real number on a number line, perform standard operations on real numbers (rational + irrational numbers), and order a set of real numbers
- Reduce rational number expressions to simplest form following rules for the order of operations and the field properties of the rational numbers
- Apply rules for operations with decimals and rounding
- Convert a rational number to a (terminating/repeating) decimal and vice versa
- Simply square roots and approximate the square root of a number using the Babylonian method
- Solve and simplify linear equations and inequalities
- Solve problems involving ratios, proportion and percent
- Simplify rational exponential expressions, use scientific notation and absolute value

COURSE SCHEDULE/TENTATIVE TIMELINE: We will cover approximately chapters 1-2, 4-7 in the textbook. Please keep in mind the following important dates:

Tues. Sept. 2: First Day of Classes

Mon. Sept. 7: Labour Day (College closed)

Fri. Oct. 9: **Midterm 1**

Mon. Oct. 12: Thanksgiving Day (College closed)

Wed. Oct. 28: Last Day to Withdraw

Nov. 11, 12-13: Remembrance Day/Fall Break (No classes)

Fri. Nov. 20: **Midterm 2**

Tues. Dec. 8: Last Day of Classes

EVALUATIONS:

Worksheets: 10%

Assignments: 10%

Midterms: 20% (x2)

Final Exam: 40%

GRADING CRITERIA:

GRANDE PRAIRIE REGIONAL COLLEGE			
GRADING CONVERSION CHART			
Alpha Grade	**4-point Equivalent**	**Percentage Guidelines**	**Designation**
A⁺	4.0	95 – 100	**EXCELLENT**
A	4.0	90 – 94	
A⁻	3.7	85 – 89	**FIRST CLASS STANDING**
B⁺	3.3	80 – 84	
B	3.0	75 – 79	**GOOD**
B⁻	2.7	70 – 74	
C⁺	2.3	66 – 69	**SATISFACTORY**
C	2.0	62 – 65	
C⁻	1.7	58 – 61	
D⁺	1.3	55 – 57	**MINIMAL PASS**
D	1.0	50 – 54	
F	0.0	0 – 49	**FAIL**
WF	0.0	0	**FAIL, withdrawal after the deadline**

STUDENT RESPONSIBILITIES:

Refer to the College Policy on Student Rights and Responsibilities at
www.gprc.ab.ca/d/STUDENTRIGHTSRESPONSIBILITIES

STATEMENT ON PLAGIARISM AND CHEATING:

Refer to the College Student Misconduct: Academic and Non-Academic Policy at
www.gprc.ab.ca/d/STUDENTMISCONDUCT

**Note: all Academic and Administrative policies are available at
www.gprc.ab.ca/about/administration/policies/

*UNIVERSITY TRANSFER (If applicable)***:**

** 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.

Please refer to the Alberta Transfer guide for current transfer agreements:
www.transferalberta.ca