



DEPARTMENT OF ACADEMIC UPGRADING

COURSE OUTLINE – FALL 2018

MA0120 A2: Mathematics Grade 20-1 Equivalent 5 (6-0-0) HS

6 hours per week (90 hours)

INSTRUCTOR: Dr. Shohreh Rahmati **PHONE:** 780-539-2210
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OFFICE HOURS: M, T, W, R 10-11AM

CALENDAR DESCRIPTION: This course explores sequences and series, radical expressions and equations, quadratic equations and functions, linear and quadratic inequalities, linear-quadratic and quadratic-quadratic systems of equations, rational expressions and equations, absolute value functions, reciprocal functions, and trigonometry including the sine and cosine laws.

PREREQUISITE: MA0110, Mathematics 10-C, or equivalent math placement test score

REQUIRED TEXT/RESOURCE MATERIALS:

Pre-Calculus 11 Work Text, (Pearson). Non-graphing scientific calculator, graph paper, loose leaf paper or note book; a pencil, an eraser, a ruler.

DELIVERY MODE(S): This is a lecture based course.

Lectures: M, T, R, F 11:30-12:50 PM (A301)

COURSE OBJECTIVES: As stated by Alberta Education,

<https://education.alberta.ca/teachers/program/math/educator/progstudy/>

upon successful completion of this course the student will:

- develop algebraic reasoning and number sense
- develop trigonometric reasoning
- develop algebraic and graphical reasoning through the study of relations.

LEARNING OUTCOMES:

As a result of taking this course, students will gain the ability to:

- solve problems involving arithmetic sequences/series
- solve problems involving geometric sequences/series
- simplify sum, difference, product, and quotients of radical expressions
- solve linear equations and equations involving radicals

- factor polynomial expressions and solve quadratic equations
- determine the number of solutions of quadratic equations without solving the equations
- identify the characteristics of quadratic functions and sketch its graph
- write a quadratic function to model a problem, then solve the problem
- graph the linear inequalities in two variables and solve related problems
- solve system of linear-quadratic equations and quadratic-quadratic equation using different strategies
- solve problems in triangles that are not right triangles using sine and cosine law
- calculate the angle in a standard position when conditions are given
- determine equivalent forms of rational expressions
- simplify rational expressions using the rules for the order of operations
- graph and identify the properties of absolute value functions
- solve absolute value equations using different strategies

TRANSFERABILITY:

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. This course is listed in the Alberta Transfer Guide as equivalent to Math 20-1. ** Although 50% (D) is considered a pass for this course, we strongly recommend that you achieve a mark of 65% (C) to be successful at the next level.

EVALUATIONS:

- | | |
|---------------------------|---------------|
| • 4 Assignments | 12% (3% each) |
| • 4 unit tests | 32% (8% each) |
| • Midterm | 20% |
| • Final Exam (cumulative) | 36% |

COURSE SCHEDULE/TENTATIVE TIMELINE: In this course, we will cover chapter 1-8 of the textbook. This course has 4 unit tests:

Unit Test 1: Chapter 1: Sequences and Series, Chapter 2: Absolute Value and Radicals

Unit Test 2: Chapter 3: Solving Quadratic Equations, Chapter 4: Analyzing Quadratic Functions

Unit Test 3: Chapter 5: Graphing Inequalities and Systems of Equations, Chapter 6: Trigonometry

Unit Test 4: Chapter 7: Rational Expressions and Equations, Chapter 8: Absolute Value and Reciprocal Functions

The midterm exam will cover the first four chapters.

GRADING CRITERIA:

Please note that most universities will not accept your course for transfer credit **IF** your grade is **less than C-**.

Alpha Grade	4-point Equivalent	Percentage Guidelines	Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	90-100	C+	2.3	67-69
A	4.0	85-89	C	2.0	63-66
A-	3.7	80-84	C-	1.7	60-62
B+	3.3	77-79	D+	1.3	55-59
B	3.0	73-76	D	1.0	50-54
B-	2.7	70-72	F	0.0	00-49

STUDENT RESPONSIBILITIES: Students are required to attend classes. Assignments must be submitted on time. No late assignments will be accepted. Late or missed tests will result in mark zero unless the student provides a valid reason. No calculators, cellphones, notes or textbooks are allowed during the exams. **Cell phones are to be turned off and not used during class.**

STATEMENT ON PLAGIARISM AND CHEATING: : 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 <http://www.gprc.ab.ca/about/administration/policies/>

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