Edwin Parr Composite
Mathematics 20-1 Course Outline

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Mathematics 20-1 requires a high level of student engagement and participation. Students should be prepared for an average of 2-3 hours of homework weekly and sometimes more. Mathematics 20-1 explores a large number of concepts so students should make every effort to attend all the classes as it is **EASY** to fall behind and **DIFFICULT** to catch up.

Course Evaluation (where your grade in this course comes from)

Topic	Weighting	# of Class Days
Quadratic Functions	8%	8
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Trigonometry	8%	9
Radical Expressions and Equations	8%	10
Rational Expressions and Equations	10%	13
CUMULATIVE REVIEW AND EXAM	**5%**	**4**
Sequences and Series	7%	9
Absolute Value and Reciprocal Functions	6%	8
Systems of Equations	5%	6
Linear and Quadratic Inequalities	5%	5
Total	70%	

Within each unit, 30% of your mark will come from Quizzes and In-class Assignments and 70% of your mark will come from Unit Exams

The Final Exam in Mathematics 20-1 is worth the remaining 30% of the total course mark

Textbook

- McGraw-Hill Ryerson Pre-Calculus 11 (used as needed)

Required Materials (these are needed for EVERY class)

- Graphing Calculator: Ti – 84, Ti – 84 Plus, Ti – 83 Plus, or Ti – 83 is recommended.
- Math 20-1 textbook, pencil, pen, straight edge and a 3-ring binder with paper.

Missed Days and Extra Help

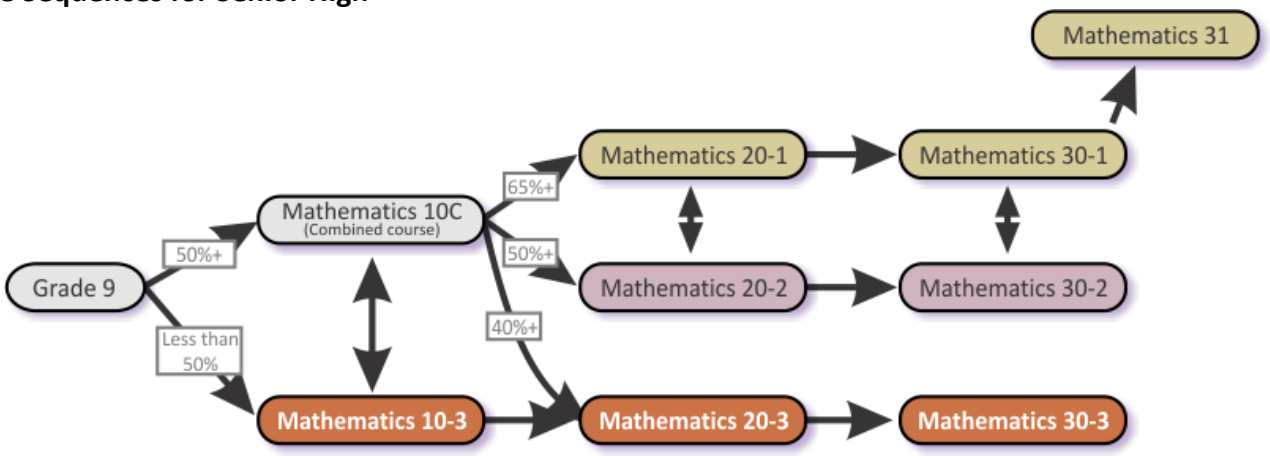
If a class is missed, *students are responsible* for obtaining a copy of the notes and finding out what homework or assignments have been missed. This means if you miss an assignment, quiz or exam, you are responsible for making it up – on your own time if necessary. *Taking personal responsibility for your own conduct and learning is the FIRST step in getting the rest of the world to start treating you like an adult!*

Students are **ALWAYS** encouraged to come for additional help when it's needed. I am available during most lunch hours in room 204 and every day after school from Monday to Thursday.

Classroom Guidelines and Expectations

For any individual to achieve in any math course an effective and helpful learning atmosphere must be created in the classroom. In my opinion the success of any individual is dependent on the success of the class as a whole. **Each student is responsible for <u>their actions</u> and <u>attitudes</u>.**

Course Sequences for Senior High



NOTE: All Students require a graphing calculator for all Math streams except 10-3/ 20-3/ 30-3.

Mathematics 10C is the prerequisite for Mathematics 20-1.

Mathematics 20-1 contains 3 major sections:

- **<u>Algebra and Number</u>** which includes absolute value, radical expressions/equations and rational expressions/equations.
- **<u>Trigonometry</u>** which includes angles in standard position, cosine law, and sine law.
- **<u>Relations and Functions</u>** which includes quadratic functions, absolute value functions, reciprocal functions, systems of equations, sequences and series, and inequalities in two variables.

Each topic area requires that students develop a conceptual knowledge base and skill set that will be useful when they choose move on to Mathematics 30-1.

Math 20-1 & Math 30-1

- Future plans include a university, college, or technical institute.
- Post-secondary programs such as engineering, mathematics, sciences, some business studies, or other programs that require advanced math skills and/or calculus courses.
- Topics: permutations and combinations, relations and functions, sequences and series, and trigonometry.

Math 20-2 & Math 30-2

- Future plans include a university, college, or technical institute (but **do not** need calculus skills)
- Post-secondary level in diverse fields, including arts programs, civil engineering technology, medical technologies, and some apprenticeship programs.
- Topics: relations, functions and equations, probability, statistics, and trigonometry.

Math 20-3 & Math 30-3

- Future plans to enter most trades or to enter the workforce after high school.
- Topics: finance, geometry, measurement, and trigonometry.

For more details see http://education.alberta.ca/teachers/program/math/sequence.aspx

Math 20-1: February 2017 - June 2017

Monday	Tuesday	Wednesday	Thursday	Friday
30	31	1 FEB Quadratic Functions in Vertex Form: $y = a(x - p)^2 + q$	2 Quadratic Functions in Vertex Form: (day 2)	3 Quadratic Functions in Standard Form: $y = ax^2 + bx + c$
6 Determine the vertex from standard form.	7 Problem Solving: Minimum and Maximum Problems	8 Problem Solving: Minimum and Maximum Problems and **Quiz**	9 Unit Review: Quadratic Functions	10 **Quadratic Functions Exam**
13 Solving Quadratic Equations using Graphing	14 Solving Quadratic Equations using Factoring	15 Introduction to the Quadratic Formula and Discriminant	16 **No School: Convention**	17 **No School: Convention**
20 **No School: Family Day**	21 **No School: Staff Work Day**	22 Unit Review and Quiz	23 Solving Word Problems with Quadratic Equations	24 Solving Word Problems and intro to higher order of factoring
27 Unit Review: Quadratic Equations	28 **Quadratic Equations Exam**	1 MAR Review: Converting between Entire Radicals, Mixed Radicals, Reducing Radicals	2 Adding and Subtracting Radical Expressions	3 Multiplying Radical Expressions
6 Dividing Radical Expressions (single term base)	7 Dividing Radical Expressions (two term base)	8 Review and Quiz: Radical Expressions	9 Solving Radical Equations	10 Unit Review: Radical Equations and Expressions
13 **Radical Expressions and Equations Exam**	14 Angles in Standard Position. Principal and Reference Angles	15 Trigonometric Ratios of any Angle: 0° to 360° (CAST RULE)	16 Review and then Quiz on CAST Rule and Trig Ratios from 0° to 360°	17 Sine Law (non-ambigious case)
20 Cosine Law	21 Sine Law (ambigious case) and problem-solving with non-right angle triangles	22 Review and then Quiz on Problem-Solving with non-right angle triangles	23 **Trigonometry Exam**	24 **No School: Staff Work Day**
27 **No School: Spring Break**	28 **No School: Spring Break**	29 **No School: Spring Break**	30 **No School: Spring Break**	31 **No School: Spring Break**
3 APR Review: Operations with Fractions and Non-Permissable Values	4 Multiplying and Dividing Rational Expressions (Day 1)	5 Multiplying and Dividing Rational Expressions (Day 2)	6 Adding and Subtracting Rational Expressions (Day 1)	7 Adding and Subtracting Rational Expressions (Day 2)
10 Additional Practice and Quiz on Rational Expressions	11 Solving Rational Equations (Day 1)	12 Solving Rational Equations (Day 2)	13 Solving Word Problems using Rational Expressions	14 **No School: Good Friday**

Math 20-1: February 2017 - June 2017

Monday	Tuesday	Wednesday	Thursday	Friday
17 **No School: Easter Monday**	18 Unit Review: Rational Equations and Expressions and **Quiz**	19 Unit Review: Rational Equations and Expressions	20 **Rational Expressions and Equations Exam**	21 **No School: Staff Work Day**
24 Linear/Quadratic Inequalities. One variable (notation, line graphs, plane)	25 Linear/Quadratic Inequalities. Two variable (graphs)	26 Problem Solving with Linear and Quadratic Inequalities	27 Unit Review and Quiz	28 **Linear and Quadratic Inequalities Exam**
1 MAY Cumulative Review	2 Cumulative Review	3 Cumulative Review	4 **Cumulative Test**	5 Introduction to the Absolute Value of Numbers and the Absolute Value Function
8 Absolute Value of Linear and Quadratic Functions (Day 1)	9 Absolute Value of Linear and Quadratic Functions (Day 2)	10 Solving Absolute Value Equations	11 Reciprocal of Linear and Quadratic Functions (Day 1)	12 **No School: Staff Work Day**
15 Reciprocal of Linear and Quadratic Functions (Day 2)	16 Unit Review: Absolute Value and Reciprocal Equations and Expressions	17 Unit Review: Absolute Value and Reciprocal Equations and Expressions	18 **Absolute Value and Reciprocal Expressions and Equations Exam**	19 **No School: Day in Lieu**
22 **No School: Victoria Day**	23 Solving Systems of Linear and Quadratic Equations Graphically (Day 1)	24 Review from Math 10C: Solving Systems of Linear Equations using Elimination and Substitution	25 Algebraicaly Solving Systems of Linear and Quadratic Equations (Day 1)	26 Algebraicaly Solving Systems of Linear and Quadratic Equations (Day 2)
29 **System of Equations Exam**	30 Arithmetic Sequences	31 JUN Arithmetic Series	1 JUN Problem Solving with Arithmetic Sequences and Series	2 Geometric Sequences
5 Geometric Series	6 Infinite Geometric Series	7 Problem Solving with Arithmetic and Geometric Sequences and Series	8 Unit Review: Arithmetic and Geometric Sequences and Series	9 **Arithmetic and Geometric Sequences and Series Exam**
12 Course Review	13 Course Review	14 Course Review	15 Course Review	16 **EXAM WEEK**
19 **EXAM WEEK**	20 **EXAM WEEK**	21 **EXAM WEEK**	22 **EXAM WEEK**	23 **EXAM WEEK**
26 **EXAM WEEK**	27 **EXAM WEEK**	28 **LAST DAY OF SCHOOL YEAR**	29	1