PATTISON HIGH SCHOOL
We don't teach a class, we teach individual students in a class

PRE-CALCULUS 11

TEACHER: Mr. Basil Williams
ROOM: 109
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TEXTBOOK: iWrite Math 11: Pre-Calculus Mathematics – BC Edition

COURSE OBJECTIVE

Pre-Calculus 11 develops the algebraic, trigonometric, and reasoning skills needed for advanced studies in mathematics and science. Students will deepen their understanding of the real number system, powers with rational exponents, radical operations, polynomial factoring, quadratic functions, rational expressions, inequalities, and trigonometric relationships in non-right triangles.

The course emphasizes problem-solving, reasoning, and modelling to make meaningful connections between mathematical concepts and real-world contexts. Students will:

- Generalize relationships through abstract thinking.
- Apply proportional reasoning in trigonometry to solve measurement problems.
- Analyze quadratic relationships as they appear in the world around us.
- Explore financial literacy concepts, including compound interest, investments, and loans.
- Reflect on their own mathematical thinking and use mistakes as opportunities for growth.
- Connect mathematical concepts across topics, cultures, and contexts, including First Peoples perspectives where appropriate.

The course will encourage students to persistence; engage in reflective practice; and foster the ability to **generalize, connect, and communicate mathematical ideas** with multiple representations (symbolic, graphical, numerical).

SUPPLEMENTARY RESOURCES

YouTube: *Mathematics is the sense you never knew you had* | Eddie Woo | TEDxSydney
Book: *A Mathematician Reads the Newspaper* – John Allen Paulos
Book: *How Not to Be Wrong: The Power of Mathematical Thinking* – Jordan Ellenberg
Book: *Mathematical Sorcery* – David Berlinski

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COURSE CONTENT

Unit 0 – Problem Solving and Reflective Practice
Unit 1 – Exponents and Radicals
Unit 2 – Operations on Radicals
Unit 3 – Factoring and Applications
Unit 4 – Trigonometry: Angles and Ratios (including angles in standard position)
Unit 5 – Trigonometry: Sine and Cosine Laws (including the ambiguous case)
Unit 6 – Quadratic Functions and Equations
Unit 7 – Rational Expressions and Equations
Unit 8 – Inequalities (linear and quadratic)
Unit 9 – Financial Mathematics: Compound Interest, Investments, and Loans
Final Exam Preparation and Assessment

SUPPLIES (to be brought to every class)

2-inch 3-RING binder with lined paper
Pencils, coloured pens, eraser, ruler
Scientific or Graphing Calculator (Recommended models: TI-83/84 or Equivalent)
Scientific or graphing calculators must have trigonometric functions

MARK BREAKDOWN

Classwork 20%

Includes readings, activities, and workbook assignments.

Quizzes and Tests 30%

There will be a quiz on the topics we covered in class after each unit is completed.
There will be approximately 4 tests throughout the term
Quizzes are open book and tests closed book.

Mid and Term Finals 30%

Both mid-term and final exams will be cumulative tests covering multiple units.

Final Exam 20%

There will be a final examination covering the entire course

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Assessment Philosophy

Classwork, quizzes and tests guide students' academic growth and support reflection, helping them adjust strategies and deepen conceptual understanding and procedural fluency.

Midterm, term finals, final exams measure mastery of concepts and readiness for higher level math-related courses as well as post-secondary studies.

This balance of ongoing and cumulative assessment reflects BC's **Big Ideas:** *Reflective practice strengthens reasoning and persistence*

Students are encouraged to use reflection and revision as tools for growth and preparation.