



PATTISON HIGH SCHOOL

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

Foundations of Mathematics and Pre-Calculus 10

Timothy Chan

Fall 2024

Basic Information

Email: timothy.chan@pattisonhighschool.ca
Location: Room 109
Session: 10:25am - 11:55am (Short: 10:10am - 11:25am)
Office Hour: 8:15am - 4:15pm

Course Description

The course is designed to provide students with the basic mathematical understandings and critical thinking skills needed for post-secondary studies in programs that require an academic or mathematics credit.

Big Ideas

- Algebra allows us to generalize relationships through abstract thinking
- The meanings of, and connections between, each operations extend to powers and polynomials
- Constant rate of change is an essential attribute of linear relations and has meaning in different representations and contexts
- Trigonometry involves using proportional reasoning to solve indirect measurement problems
- Representing and analyzing situations allows us to notice and wonder about relationships

Resources

Textbook: Theory and Problems for Foundations of Mathematics & Pre-Calculus 10: 3rd Edition (Mickelson)

Topics

Chapter	Content
1. Real Numbers	Number Systems Greatest Common Factor and Least Common Multiple Squares and Square Roots Rational and Irrational Numbers Exponential Notation Irrational Numbers
2. Polynomials	Classifying Polynomials Multiplying Polynomials Removing Common Factors Factoring $x^2 + bx + c$ Factoring $ax^2 + bx + c$ Special Factors
3. Relations and Functions	Relations Functions Linear Equations Non-Linear Equations Graphing with a Calculator
4. Linear Functions	Slope Rate of Change Graphing Linear Functions Parallel and Perpendicular Lines Applications of Linear Relations
5. Linear Equations	Different Forms of Linear Equations Special Cases of Linear Equations Equations of Parallel and Perpendicular Lines Linear Applications and Modelling Function Notation
6. Solving Linear Systems	Solving Linear Systems by Graphing Solving Linear Systems by Addition Solving Linear Systems by Substitution Problem Solving with Two Variables Arithmetic Sequence Arithmetic Series
7. Finance	Simple and Compound Interest Gross and Net Pay Tax Rates Net Income
8. Trigonometry	Sine, Cosine, and Tangent for Right Triangles Relationships Between Sine, Cosine, and Tangent

Expectations

Attendance

Students are expected to attend each class and notify the school if and when they have to be absent, giving a suitable reason for the absence.

Students should arrive at their classes on time and be prepared to study. They should not normally expect to leave the classroom near the beginning or end of class.

Clothing and Appearance

School clothing must be evident as the outer layer while in the classroom.

Body modification, in any of its forms, may not be suitable for the school community and may require a return to an original presentation.

Electronic Devices

Students must turn off their cell phones during class, and put them in their locker.

Ear buds and headphones are prohibited in the classroom, unless specifically allowed.

Attitude

In order to succeed, it is important that students pay close attention in every class, attend and participate in all class activities, do all homework assignments on time, and bring materials to class such as a printed English language dictionary, a binder in which to keep notes and papers, and stationary.

Language

The use of the English language at all times when in the classroom.

Classroom Environment

It is important to keep the classroom clean and tidy. Other than water, no food or drink is permitted in the classroom.

Honesty

Students always present work that is their own, original work - and not the result of cheating or plagiarism; the course is founded upon the trust in academic honesty.

Evaluation

Course Work	Percentage
Homework	20%
Quizzes	20%
Midterm	20%
Final Exam	40%
Total	100%