



# Windsor Secondary School

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At Windsor Secondary School we strive to treat each other with respect and dignity, appreciate diversity, actively pursue lifelong learning through different opportunities and value everyone's right to work and learn in a safe, supportive, challenging environment.

## COURSE OUTLINE

**SUBJECT:** Foundations of Mathematics and Pre-Calculus 10

### BIG IDEAS:

Algebra allows us to generalize relationships through abstract thinking.

The meanings of, and connections between, each operation 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.

### CURRICULAR COMPETENCIES:

*Students are expected to be able to do the following:*

#### Reasoning and analyzing

- Use reasoning and logic to analyze and apply mathematical ideas
- Estimate reasonably
- Demonstrate fluent and flexible thinking of number
- Use tools or technology to analyze relationships and test conjectures
- Model mathematics in contextualized experiences

#### Understanding and solving

- Develop, demonstrate, and apply conceptual understanding of mathematical ideas
- Visualize to explore and illustrate mathematical concepts and relationships
- Apply flexible strategies to solve problems in both abstract and contextualized situations
- Engage in problem-solving experiences that are connected to place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures

#### Communicating and representing

- Communicate mathematical thinking in many ways
- Use mathematical vocabulary and language to contribute to mathematical discussions
- Represent mathematical ideas in a variety of ways
- Explain and justify mathematical ideas

#### Connecting and reflecting

- Reflect on mathematical thinking
- Use mathematics to support personal choices
- Connect mathematical concepts to each other and to other areas and personal interests
- Incorporate First Peoples worldviews and perspectives to make connections to mathematical concepts

## CONTENT:

*Students are expected to be able to do the following:*

- operations on powers with integral exponents
- prime factorization
- functions and relations: connecting data, graphs, and situations
- linear functions: slope and equations of lines
- arithmetic sequences
- systems of linear equations
- multiplication of polynomial expressions
- polynomial factoring
- primary trigonometric ratios
- financial literacy: gross and net pay

## RESOURCE MATERIALS:

Mathematics 10 (McGraw-Hill/Ryerson)

**Scientific calculator required**

## POLICIES AND PROCEDURES:

### 1) PREPARATION FOR CLASS

It is the student's responsibility to arrive for each class **on time** with their notebook, pencils, calculator, and textbook. Lack of preparation will not be accepted as a valid reason for excusal from course work.

### 2) ABSENCES

Missing classes for any reason will have an impact on learning, assessment, and evaluation. Students absent from class, whether excused or unexcused, are solely responsible for obtaining and completing any missed assignments, work, or homework. **Your teacher is not required to make special arrangements for unexcused absences.**

- a) Students absent for illness, medical appointments, and other emergencies **must** contact their teacher **on the day they return to school** to submit overdue assignments, schedule missed tests or quizzes, and to receive missed work.
- b) Students absent for school related activities (ex. field trips, work experience, sports trips, etc.), **must** inform their teacher of this absence **well in advance** of the activity, in order to receive specific instructions on work that will be missed and the rescheduling of missed tests and quizzes.
- c) Students absent for any other reason, including family vacations, are considered **unexcused**. Any work, tests, or quizzes missed for these absences may result in receiving a **zero** for that activity.

### 3) TECHNOLOGY

Students are encouraged to bring a portable electronic device, preferably a laptop or tablet. Technology will be used to enhance student learning by utilizing online applications (eg: Desmos) and engaging with relevant digital material with which to apply newly learned mathematical concepts.

### 4) LATE SUBMISSIONS

Students who submit assigned work **after** it has been reviewed and returned to the class receive an unfair competitive advantage. Therefore, assignments submitted after the return date will receive a grade of 'completed' in place of a letter grade.

### 5) SCHOLANTIS PORTAL

Students are required to check the class page on the Scholantis Portal (accessible through the school home page) on a daily basis. All students will receive training on how to access and use the portal. Students are responsible for all content posted to the portal, including class notes, quizzes, tests, due dates, assignment outlines, and other announcements.

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## Units of Study

Unit of Study	Big Idea	Textbook Chapters
<b>Unit 1 Trigonometry</b>	Trigonometry involves using proportional reasoning to solve indirect measurement problems.	Chapter 3
<b>Unit 2 Exponents</b>	The meanings of, and connections between, each operation extend to powers and polynomials.	Chapter 4
<b>Unit 3 Polynomials</b>	The meanings of, and connections between, each operation extend to powers and polynomials.	Chapter 5
<b>Unit 4 Linear Relations</b>	Constant rate of change is an essential attribute of linear relations and has meaning in different representations and contexts.	Chapters 6 and 7
<b>Unit 5 Systems Analysis</b>	Constant rate of change is an essential attribute of linear relations and has meaning in different representations and contexts.	Chapters 8 and 9
<b>Unit 6 Sequences and Series</b>	Representing and analyzing situations allows us to notice and wonder about relationships.	Supplemental

### ASSESSMENT

<b>Gallery Walks</b>	5%
<b>Quizzes</b>	5%
<b>Assignments</b>	20%
<b>Unit Tests</b>	50%
 <b>Final Exam</b>	 20%

Students will write a final exam in June. The exam date(s) will be communicated at least three weeks in advance. The final exam is a mandatory final assessment that can only be excused with prior administrative approval.