

New Westminster Online Learning School

Pre-Calculus Math 12:

Course Description

- Students considering taking this course should have, within the past 5 years, achieved at least a C+ in Pre-Calculus 11 or an equivalent course or by our assessment.
- This course builds on the concepts from Pre-Calculus 11 in that polynomial, radical, rational, exponential, logarithmic, and trigonometric functions are used to represent real world situations. Changes to the basic graphs of these functions and combining two functions by addition, subtraction, multiplication or division, as well as the relationships between geometric patterns are also explored.

Course Expectation

Students are expected to complete their online course within a 4-5 month period of time. If additional time is needed, contact your course instructor.

Enduring Understanding/Big Ideas (taken right from [bced.gov.bc.ca](https://curriculum.gov.bc.ca))

Students will focus on:

- Using inverses is the foundation of solving equations and can be extended to relationships between functions.
- Understanding the characteristics of families of functions allows us to model and understand relationships and to build connections between classes of functions.
- Transformations of shapes extend to functions and relations in all of their representations.

Specific Learning Outcomes

https://curriculum.gov.bc.ca/sites/curriculum.gov.bc.ca/files/curriculum/mathematics/en_mathematics_12_pre-calculus_elab.pdf

Course Content

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| Unit 1 | Sequences & Series |
| Unit 2 | Transformations |
| Unit 3 | Polynomials |
| Unit 4 | Exponents & Logs |
| Unit 5 | Rational Expressions |
| Unit 6 | Sinusoidal Functions |
| Unit 7 | Trig Identities |
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Student Learning Activities and Strategies

The online lessons use a combination of text, short videos, interactives, simulations, and animations to help students understand the concepts. Each unit has a Learning Guide booklet aligned with the lessons, which form the notes and practice questions needed for that unit.

Assessment

The Learning Guide, two quizzes and a test for each unit can all be completed from home. The Learning Guides and quizzes provide a way to check understanding and to get feedback and help from the teacher.

Students are also required to write two exams (a mid-term and final) at a supervised location. Students who live outside New Westminster, can arrange to have these invigilated at their school or at an educational institution where they live.

Evaluation

The final mark is determined by the progress made in understanding key concepts and skills, as demonstrated through the Learning Guides (~20%), Unit Tests (~30%), Mid-term Exam (~20%) and Final Exam (~30%).

Resources

All materials are available online.