



Pre-Calculus 11 (New Curriculum)

Course Outline

Course Overview

Students will learn and develop mathematical skills that are foundational for use in pre-calculus and calculus thereafter. Pre-Calculus 11 focuses on quadratic relationships, their prevalence around us, and the use of algebra to generalize these relationships through abstract thinking. Students will explore the meanings of and connections between operations extending to powers, radicals and polynomials. Students will use proportional reasoning to solve indirect measurement trigonometric problems, and work with formulas for financial literacy. These mentioned topics will be studied with use of the Communication, Thinking, and Personal & Social core competencies.

Course Content and Suggested Timelines

Chapter 1: Factoring Polynomials ~10 hours

- Reviewing area models and basic factoring
- Factoring Trinomials
- Advanced factoring

Chapter 2: Quadratic Functions ~10 hours

- Identifying characteristics and graphing quadratics
- Solving problems in context (ex: max and min problems)
- **Chapter Project**

Chapter 3: Quadratic Equations ~20 hours

- Solving quadratic equations by way of various methods (graphing, factoring, completing the square, quadratic formula)
- Connecting equations with solving strategies
- Linear and quadratic inequalities including restrictions and notation

Chapter 4: Rationals ~12.5 hours

- Simplifying and applying operations to rational expressions
- Identifying non-permissible values
- Solving equations and identifying extraneous roots

Midterm 1 (Chapters 1-4)

This is to be written **VIRTUALLY WITH AN EBUS-APPROVED INVIGILATOR**. Any invigilated test must be booked at least 1 week in advance.

Chapter 5: Radicals ~17.5 hours

- Classification of numbers
- Exponents and radicals
- Multiplying and dividing Radicals
- Simplifying Radicals
- Solving radical equations, identifying domain restrictions and extraneous roots

Chapter 6: Trigonometry ~20 hours

- Sine and Cosine Laws
- Angles and coordinate plane
- Trigonometric ratios of any angle
- Solving trigonometric equations
- **Chapter Project**

Chapter 7: Financial Literacy ~10 hours

- Compound interest
- Introduction to investments and loans
- Buying versus leasing
- **Chapter Project**

Midterm 2 (Chapters 5-7)

This is to be written **VIRTUALLY WITH AN EBUS-APPROVED INVIGILATOR**. Any invigilated test must be booked at least 1 week in advance.

Course Materials

There is no textbook issued for this course. Instead, video lessons are provided within the course.

To complete the course, you will need: a scientific non-graphing calculator, access to the internet, a computer, printer, and a digital camera (phone/tablet cameras work) or scanner. If any of these are not easily accessible, please contact your teacher for help getting what you need or an alternative.

The learning outcomes for this course are available at: [Pre-Calculus New Curriculum](#)

Assessment Information

Note Package and Practice Questions: 10%

Students need to complete the chapter notes and practice questions for a mark on completion, meaning that if they submit all pages complete and do the required amount of practice questions (**a minimum of 10 questions must be completed. It is up to the student to decide which ones they need to do to become confident in the material and how many they need to do**). Students can print off the notes from the videos with or without the practice questions and complete

those or make their own notes and submit those as pdf files (information below for help with this). Students may do the practice questions in printed notes, their own notes, or online (please advise if you do this option).

This is the rubric that will be used to grade your notes and practice questions

Note Package Grading /5	Practice Question Grading /5
5 – All note pages completed thoroughly 4 – All note pages somewhat completed 3 – Most pages completed thoroughly 2 – Some pages completed 1 – Very few pages completed 0 – Not submitted	5 – Required amount of questions completed with thorough work shown 4 – Required amount of questions completed with some work shown 3 – Less than required amount of questions completed with thorough work shown 2 – Less than required amount of questions completed with some work shown 1 – Very few questions completed 0 – Not Submitted

Assignments: 10%

For each chapter, there will be one (or two) assignment(s) that need to be completed. These assignments are displayed on the course website and can be accessed directly from there. You may use your notes and other resources to help you with the assignment. When you have completed your assignment, you will need to upload it to the assignment submission box to be marked. Hand in boxes for the assignments are set up to accept one (1) file at a time. **Students in an online environment will need to become comfortable with scanning or taking images of their assignments and compressing them into one file for submission.** Students can read up on using **CamScanner** , a free app, to help them compose and submit single pdf's of their work. **There is useful information located directly above Chapter 1 in the course.** Once the assignments have been marked, you can view them in your gradebook. Feedback from the assignment will also be available either in your gradebook or in a file uploaded to the same place the assignment was submitted, within the course. **A minimum achievement of 50% must be met on each related assignment in order to have access to that chapter test.** Students will need to re-submit an assignment until this is satisfied. At that point re-submissions will not be accepted.

Supervised and Invigilated Exams:

(Supervised) Chapter tests: 35%

There will be a chapter test for each of the Pre-Calculus 11 chapters. Please note that all chapter tests are "closed book" tests, which means that you are not permitted to use the textbook or any other reference materials to help answer the questions. You are permitted to use a non-graphing calculator if needed and an unmarked copy of the course formula sheet. Each test consists of multiple-choice questions, for which you must also submit written work to support your answers. Each question is worth 3 marks; 1 mark for the multiple-choice answer, 2 marks for supporting work. That way, even if your answer is incorrect, you may still get part marks. All Chapter tests are to be supervised. Supervised exams are exams that can be taken at home with a parent or other adult supervision. **You must read and sign off on the Supervision Form for this course. (In Chapter 1 Factoring polynomials before the test)**

(Invigilated) Midterms 1 & 2: 10% each (Total 20%)

There are two invigilated exams in this course: Midterms 1 (Chapters 1-4) & Midterm 2 (Chapters 5-7) Invigilated exams need to be invigilated by an EBUS approved invigilator. Please contact your course teacher if you have questions or concerns about invigilated exams. You will find invigilation request forms in the course close to the invigilated tests. One-week notice is required for exam booking.

Projects: 25%

There are three of these throughout the course. These are meant to supplement a student's learning in an alternative format. The projects have booklets that walk the student through the process.

When students are not meeting the learning outcomes/ falling behind

When students fall behind the expected pace or plan, they will be contacted via email or phone and if there is no improvement or response, parents will also be contacted. If deemed necessary, contact with the student's home school may also occur to help determine a solution.

Students are expected to let the course teacher know when they are struggling with course content. In response, the course teacher will provide appropriate help or strategies to support learning. The course teacher will also provide feedback on course work to support learning and help students improve. Parents will be made aware if their child is actively working but struggling to meet the learning outcomes of the course.

Students falling behind in a manner where it does not appear that they will complete the course within a year will be sent reminder emails. Without a response or renewed efforts in the course, the student may be assigned an F or withdrawn. Should they begin actively working in the course, the student may be given an alternate completion date.

Inactivity and Communication

Students are expected to login and submit work in their online courses on a weekly basis. EBUS teachers monitor student participation, work submission and periods of inactivity in their courses. Students who have not accessed their course for a period of **two weeks or longer** will receive an **online gentle reminder email** to inquire about progress and reasons for inactivity; parents will also receive a copy of the email. Students who receive a reminder email must contact their teacher to communicate their intentions for the course and any other information that will help support their learning. If a student has been inactive for a period of *eight consecutive weeks* or longer, has received *three online reminders* and has *not responded to communications* from their online teacher, the student may be withdrawn from the course.

Communication between students and teachers is important. EBUS Academy offers a flexible learning environment and we understand that various circumstances can arise that prevent students from engaging in their courses. When students anticipate being absent from their online course, they should contact their teacher in advance, whenever possible.

Expectations

- Adhere to the EBUS Academic Integrity Policy
- Contact your teacher when help is needed
- Review feedback from assignments and tests, where applicable
- Work to complete the course in a timely manner
- Communicate respectfully
- Review weekly progress reports

Reporting to Parents:

There are 4 term report cards that can be downloaded from the student dashboard. A notice will go out when these report cards are available.

The teacher will send out a weekly or bi-weekly progress report showing the student's progress, on weeks that EBUS is in session.

Contacting Your Teacher:

This course has different teachers. You will be assigned a teacher upon registration, as shown in your EBUS Dashboard and Moodle course. If you are having trouble with any concepts, please contact your teacher right away!

Megan Knowles mknowles@sd91.bc.ca or Moodle Message

Office Hours: Mondays and Thursdays 8:30am - 3:30pm

Tuesdays, Wednesdays, Fridays 6:30-8:00am

Jenny Kuo jkuo@sd91.bc.ca or Moodle Message

Office Hours: Mondays - Fridays, 8:30am - 3:30pm

