

# Calculus 12

**Learning Outcomes:** The activities in this course are based on the core competencies and curricular competencies as provided by the Ministry of Education of BC and will introduce students to four key ideas: The concept of a limit is foundational to calculus, differential calculus develops the concept of instantaneous rate of change, integral calculus develops the concept of determining a product involving a continuously changing quantity over an interval, and derivatives and integrals are inversely related.

View the complete Ministry of Education learning outcomes for this course: [Calculus 12](#)

**Resources:** Students require the following: Pencil, coloured pens, lined paper, grid paper, 4-line display scientific calculator, printer/scanner. All other resources are provided within the course. Students will need good access to the Internet and will be required to use online tools.

**Exams:** All exams and quizzes require a password and are to be invigilated by a teacher at your school or an approved testing center. At the conclusion of this course, learners have an opportunity to rewrite one unit exam of their choosing. Exams may cause anxiety for some students. See your teacher for study skills if necessary.

**Communication:** Assignments are submitted directly through your course. Constant communication with your teacher is key to success in a DL course. Phone or email or message your teacher for help whenever necessary.

**Goal Setting:** This course is self-paced and self-directed. Students should plan on working 5-6 hours a week on this course. It is highly recommended that the student creates a calendar of monthly, weekly and even daily goals. Contact your teacher if help is needed doing this.

**Learning Guides/Projects:** Print out unit learning guide, complete and upload in pdf form. Once mastered, select and complete a unit project, then upload in pdf form. Please ensure these are neat and organized. Learning guides must be submitted before writing unit exams.

**PREREQUISITE:** It is recommended that learners have achieved a minimum grade of 67% in PreCalc12. A solid understanding of the topics covered in PreCalc12 is needed to ensure success in this course.

**Unit 1: Functions**

**Unit 2: Limits and Continuity**

**Unit 3: Differentiation**

**Unit 4: Applications of Derivative**

**Unit 5: Integration**

**Unit 6: Applications of Integrals**

**Unit 7: Differential Equations and Riemann Sums**

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## **Assessment**

### **Assessments and Final Exam**

\*all supervised exams must be written at your school or an approved testing center. Students who reside out of SD73 boundaries have the option to meet the teacher over zoom to complete exams.

This 4-credit course will be broken down as follows:

**Unit Assignments, Activities, Explorations - 30%** of the overall grade.

**Unit Exams - 50%** of the overall grade.

**Final Exam - 20%** of the overall grade.