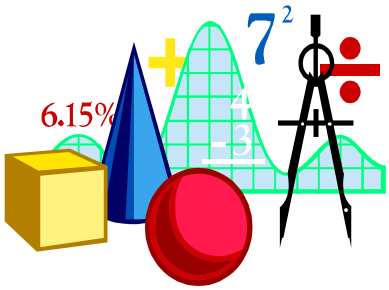
Calculus 12

Mr. J.N. Bradshaw

Text:

Calculus of a Single Variable (Houghton Mifflin 2006)

Quick Outline:*



Review of Algrebra
Limits and Rates of Change
Derivatives
Applications of Derivatives
Extreme Values
Sketching Curves
Derivatives of Trigonometric Fns
Derivatives of Exponential Fns
Differential Equations
Integrals

*problem solving is a key part of mathematics and will be integrated throughout the course.

Major Learning Outcomes:

It is expected that the student will:

1. describe the contributions made by various mathematicians to the development of Calculus.
2. demonstrate an understanding of the concept of limit and use correct notation.
3. describe geometrically a secant line and a tangent line for the graph of a function and be able to derive the definition of the derivative.
4. compute derivatives using the definition of derivative and solve real world problems.
5. determine the equation of the tangent line to a curve at a given point.
6. use the Chain Rule to compute the derivative of a composite function.
7. graph functions by using first and second order derivatives.
8. model and apply trigonometric and exponential functions and find their derivatives.
9. Investigate the concept of integrals and use them to solve a variety of problems.

Course Content Evaluation:

70% Tests
30% Assignments and Quizzes
**The final assignment will be worth 20% of the course mark.*

Big Ideas for Calculus 12

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.	Derivatives and integrals are **inversely related**.

Extra Help:

Extra support is accessible through scheduled appointments during lunchtime and, if required, after school hours.
Missed assignments are expected to be completed by students on their own time, with the guidance and assistance of the teacher during lunchtime.

Required material:

1 2-inch binder with lined paper, graph paper, and dividers
1 geometry set (compass, protractor, ruler)
1 1 scientific calculator
assorted pens, pencils, erasers, etc.

Rewrites:

Students may rewrite chapter tests. The rewrite **will** replace the mark received on the original test.
To rewrites students must:

1) Indicate a wish to rewrite a test by registering with the teacher.
2) Participate in a tutorial prior to the rewrite.
3) Do the re-writes on the date set in class.
4) Demonstrate satisfactory effort during class.

Email: Please feel free to email me for updates on your students progress or regarding any concerns you may have: jbradsha@sd83.bc.ca

Web Page: www.pvs.sd83.bc.ca/Bradshaw

I have read and understood the course outline:

_____ _____
(Student Signature) (Parent/Guardian Signature)

Print Name: