# MATHEMATICS 31IB

Sep 2011 Mr Tony Moratto

**OBJECTIVES**: MATHEMATICS 31IB is a required prerequisite for students entering Physics,Engineering, and Honours Mathematics. It is highly recommended as a prerequisite for students entering Science, Commerce, Economics, Computing Science, and Education (if majoring in Math). It is hoped that you will develop an understanding of the algebra of functions and transformations, and develop a fluency in algebraic computations. You will be introduced to the principal concepts and methods of differential and integral calculus along with simple applications in the physical, biological sciences, engineering, business and the social sciences. As per the Alberta Education Program of studies (www.education.gov.ab.ca/k%5F12/curriculum/bySubject/math/) for Math 31 (1995), we will cover the following topics.

| **UNIT** | **CHAPTER** |
|---|---|
| Rates of Change (gradients & derivative from first principals)(4 weeks) | 18 |
| Differential Calculus (rules for derivatives) (4 weeks) | 19 |
| Curve Sketching (normals, stationary points, limits & asymptotes) (4 weeks) | 20 |
| Applications (kinematics, max/min problems, *related rates) (4 weeks) | 21 |
| Integration (integrals, area's, solids of revolutions) (4 weeks) | 22 |

Statistics/Probability (3 weeks) and then Exam Prep/Portfolio work(6 weeks)
TBD

**PREREQUISITE**: PureMath 30IB with a passing grade of 75%, ideally!

**RESOURCES:**

Mathematics Standard Level, 3rd edition, Fabio Cirrito and Patrick Tobin
Calculus: A First Course (McGraw-Hill) by Stewart, Davidson, Ferroni.
Math 31 CBI and Math Factor Videos

**EVALUATION**:

| | | | |
|---|---|---|---|
| Assignments | 5% | Quizzes | 10% |
| Unit Exams | 35% | Final Exam | 35% |
| Portfolio | 5% (or added to unit exams) | | |
| Exam Prep | 10% | | |

To learn Calculus you must write lots & review often, including your PureMath 30 notes!

# MATH DEPARTMENT

# MISSED EXAM POLICY

## School policy, as listed in the handbook, states the following:

d) If a student misses any test (other than the final) or an assignment, the following procedure will apply:

- when the student returns, he shall produce a written communication by the parent explaining the reason for the absence.

- if written validation is not supplied the student shall be assigned a zero on that exam, quiz or assignment.

- if validation is supplied, the teacher shall use discretion as to whether the student should be allowed to write the exam (quiz) or do the assignment or, reassign the value of the exam (quiz) or assignment.

## Clarifications:

Written communication is expected the first day upon return of the student. It should include the date of absence, be signed and include a phone number to contact the parent.

If the value of exam is being reassigned, it will be added to the midterm or final exam.

Exam (quiz) rewrites are **Thursday** after school. The student is expected to adhere to these days <u>immediately</u> upon their return.

## Rational:

It is not fair to the other students that there is a delay in going over the exams. The exams cannot be taken up and discussed in class until everyone has written the exam.

Students can expect the after school exams to be different from those given during class.

Thank you for your cooperation.