

## Calculus 12 Outline

### Term 1

- Overview of course
  - Limits
  - Derivatives
  - Integration
- Limits  
(limits, continuity, at infinity, in finite space)
- The Derivative and Differentiation techniques  
(derivative as a limit, techniques: product, quotient, chain, rule, Implicit differentiation, logarithmic differentiation)

### Term 2

- Applications of the Derivative  
(related rates, extrema, optimization, linear approximations)
- Curve Sketching  
(higher derivatives, asymptotes, concavity)
- L'hopitals rule

### Term 3

- Integration  
(Riemann sums, fundamental theorem, substitution)
- Integration by parts  
(L.A.T.E – guidelines, substitution)
- Applications of Integration  
(Area, Volume, Distance, Work)
- Analytic Geometry  
(Polar differentiation, polar coordinates)

## **Evaluation**

During each of the three terms, evaluations will be based upon:

Assignments/Homework	10%
Test/Quizzes	90%

Final standing: The final mark will consist of the average of all three terms.