Course Documentation Outline

School of Business, Biosciences and Justice Studies

SECTION I

1.   Program (s):   Environmental, Chemical, Bio-Food and Bio-Technology

2.   Course Name: Mathematics 1

3.   Course Code: MATH 1003   4.Credit Value: 4

5.   Course Hours: 4

	Class	Lab	Field	Other	Total
56					56

6.   Prerequisites/Corequisites/Equivalent Courses

PR/CO/EQ	Course Code	Title
None		

7.   **Faculty: Ron Ford   Date: May 2007   Effective Date: Sept. 2007**

8.   **Dean/Chair's Approval:** *Jim Whiteway*   **Date: August 29, 2007**

9.   **Revision Number: 2   Date: August 26, 2009   Effective Date: Sept. 2009**

10:   **Notes: Passing grade is 60%.**

Section II

11.   **Calendar Description: Engineering and scientific applications involving the following areas are covered: SI system for dealing with exact and approximate numbers, exponents, solving equations, determinants and linear equations, curve sketching, graphing and trigonometry.**

12.   **Provincial Context:**
        This course meets the following Ministry of Education and Training requirements:

        a).   **Prior Learning Assessment (PLA)**
                Students may apply to receive credit by demonstrating achievement of the course learning outcomes through previous life and work experiences.

                This course is eligible for challenge through the following method(s) indicated by *

Challenge Exam	Portfolio	Interview	Other	Not Eligible
Final theoretical exam.				

PLAR Contact:

13.   **Employability Skills emphasized in this course**

	communication - written		communication - visual		communication - oral
x	analytical		creative thinking		decision making
	interpersonal	x	numeracy	x	organizational
x	problem solving		technological		other (specify)

14.   **Required Texts, Materials, Resources or Technical Materials Required:**
        Washington, Allyn J. Basic Technical Math with Calculus (9th edition, Metric Version) Addison Wesley Longman
        Scientific calculator capable of linear regression.

15.   **Evaluation Plan**
        Students will demonstrate learning in the following ways:

Assignment Description	Evaluation Methodology		Due Date
Basic algebraic operations.	Test 1	25%	Sept. 28
Geometry, functions and graphs, trigonometric functions.	Test 2	25%	Oct. 29
Systems of linear equations and variation.	Test 3	25%	Nov. 26

16.   **Other: Final comprehensive exam.   25%**

17.   **Curriculum Delivery, Learning Plan and Learning Outcomes:**

Course Components/Content	Related Learning Outcomes	Learning Activities/Resources
Apply Basic Algebraic Operations	• Use mathematical operators to conduct fundamental operations of algebra. • Employ calculators to resolve mathematical functions. • Apply rules for exponents, roots and radicals, and scientific notation. • Solve equations and applied word problems.	Chapter 1 TEST 1
Apply Geometry to the Biosciences	• Define lines, angles, and triangles. • Solve for unknown values using solid geometric figures.	Chapter 2
Define Functions and Draw Graphs	• Demonstrate graphing of a function.	Chapter 3

Course Components/Content	Related Learning Outcomes	Learning Activities/Resources
Define Trigonometric Functions	• Practice calculating values of angles. • Resolve values of trigonometric functions. • Apply rules of right triangles to the determination of unknowns (lengths, heights, widths).	Chapter 4 TEST 2
Solve Systems of Linear Equations	Use graphing, algebra, and determinants to solve two and three systems of linear equations.	Chapter 5
Describe Variation	• Solve for unknown values using ratios and proportions.	Chapter 18 TEST 3