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 Data Analysis 1

3.   Course Code: MATH 2002   4.Credit Value: 5

5.   Course Hours: 5

	Class	Lab	Field	Other	Total
	42	28			70

6.   Prerequisites/Corequisites/Equivalent Courses

PR/CO/EQ	Course Code	Title
Math1003		Mathematics 1

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

8.   **Dean/Chair's Approval:**   **Date:**

9.   **Revision Number: 3   Date: May 2011   Effective Date: Sept. 2011**

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

Section II

11.   **Calendar Description: This is a course in Descriptive Statistics. Topics covered are: measures of central tendency, measures of variation, frequency distributions, linear regression and the normal distribution. Microsoft EXCEL will be used to generate statistical reports and graphs.**

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 and final computer assignment.				

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	x	technological		other (specify)

14. **Required Texts, Materials, Resources or Technical Materials Required:**
    Sontrop, J. and K. MacKenzie <u>Introduction to Technical Statistics and Quality Control</u> Addison Wesley, Toronto, 1996
    Scientific calculator capable of linear regression.

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

Assignment Description	Evaluation Methodology		Due Date
Basic patterns of variation.	Test 1	10%	Sept. 28
Numerical methods for describing data sets.	Test 2	10%	Oct. 26
Linear regression and the normal distribution.	Test 3	10%	Nov. 23
Excel generated reports and graphs.	2% each	25%	Weekly

16. **Other: Final comprehensive exam.   30%**
    Final computer assignment.   15%

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

COURSE COMPONENTS and CONTENT	RELATED LEARNING OBJECTIVES and EVALUATION CRITERIA	LEARNING ACTIVITIES and RESOURCES
Define Basic Statistical Concepts	• Indicate the difference between population and sample, descriptive and inferential statistics • uncertainty, types of data	Chapter 1
Describe Patterns of Variation	• Produce stem-and-leaf displays, run-charts, pie charts and bar charts, histograms for discrete and continuous data, frequency polygons and patterns of distribution	Chapter 2 Excel components will be demonstrated and practised individually in the computer lab TEST 1
Apply Numerical Methods for Describing Data Sets	• Calculate mean, median, range, percentiles, quartiles, box and whisker plots, variance, and standard deviation. • Interpret skewness, kurtosis, z-scores, and draw ogives.	Chapter 3 Excel components will be demonstrated and practised individually in the computer lab TEST 2
Apply The Normal Distribution	• Calculate the z-values, probability and area using the table of normal areas.	Chapter 6 Excel components will be demonstrated and practised individually in the computer lab
Apply Linear Regression	• Compute the regression equation (slope and intercept), and correlation coefficient.	Chapter 11 Excel components will be demonstrated and practised individually in the computer lab TEST 3