Course Description

Counting techniques, introduction to probability, introduction to statistics, pictures of data, measures of central tendency, measures of variation, interpretations of standard deviation, expected value, the binomial, Poisson distribution, the normal probability distribution, sampling distributions for the mean and variance, Chi-square distribution, the uniform distribution, linear regression, non-linear regression, large-sample hypothesis tests for population means, large-sample hypothesis tests for population proportions, large-sample hypothesis tests for difference in population means, large-sample hypothesis tests for difference in population populations, type I and type II errors, power of a statistical test, and small-sample hypothesis tests for population mean.

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Organization

In-class workload: 4 hours lecture
Out-of-class workload: 3 to 6 hours per week
Prerequisites: Open to ENGBRIDGE students

Texts

Trushel, Peter J. and Chi-Ming Leung, *Intermediate Statistics*, Camosun College bookstore 2005

Recommended Calculator

This course contains detailed information about the use of a calculator in statistics. Since this material will be based on the Texas Instruments TI-89 or TI-89 Titanium, it is strongly recommended that students purchase one of these calculators.

Assessment

4 Term Tests: 50% of Final Mark
Final Exam: 50% of Final Mark

Percentage to Letter Grade Conversion

Percentage	Letter Grade	Percentage	Letter Grade
95 to 100	A+	70 to 74	B-
90 to 94	A	65 to 69	C+
85 to 89	A-	60 to 64	C
80 to 84	B+	50 to 59	D
75 to 79	B	below 50	F

Outline

Introduction to Statistics

Week	hours	Section	Topic
1			**1 July 2005 Canada Day College Closed**
1	2	1	Counting Techniques
1& 2	2	2	Introduction to Probability

Describing Data with Graphs

Week	hours	Section	Topic
2	2	3	Introduction to Statistics
2	1	4	Pictures of Data

Describing Data with Numerical Measures

Week	hours	Section	Topic
3	1	5	Measures of Central Tendency
3	1	6	Measures of Variation
3	1	7	Interpretations of Standard Deviation
3	1		**Test 1**
4	1	8	Expected Value

Discrete Distributions

Week	hours	Section	Topic
4	2	9	Binomial Distribution
4	1	10	Poisson Distribution
5	2	11	Joint Probability Distributions
5	1	12	Sampling Distributions
5	1		**Test 2**

Continuous Distributions

Week	hours	Section	Topic
6			**1 August 2005 B. C. Day College Closed**
6	2	13	The Normal Probability Distribution
6 & 7	2	14	Sampling Distributions, Point Estimates, Confidence Intervals for μ
7	2	15	Sampling Distributions, and Confidence Intervals for Variance
7	1		**Test 3**
8	2	16	Continuous Probability Density Functions

Linear and Non-Linear Regression and Correlation

Week	hours	Section	Topic
8	2	17	Linear Regression
9	2	18	Non-linear Regression
9	1		**Test 4**

Outline (continued)

Large-Sample Tests of Hypotheses

Week	hours	Section	Topic
9 & 10	2	19	Large-Sample Hypothesis Tests about a Population Mean
10	2	20	Large-Sample Hypothesis Tests about a Population Proportion
10	1	21	Errors in Hypothesis Testing and the Power of a Test
11			**5 September 2005 Labour Day College Closed**
11	1	22	Large-Sample Hypothesis Tests about Differences in Population Means
11	1	23	Large-Sample Hypothesis Tests about Differences in Population Proportions

Inference from Small Samples

Week	hours	Section	Topic
11	1	24	Small-Sample Hypothesis Tests about a Population Mean

Total Hours: **37**
Holidays: **3**
4 Term Tests: **4**
Total Hours: **44**