Douglas College

EFFECTIVE: SEPTEMBER 2002

CURRICULUM GUIDELINES

A:	Division:	**Instruction**	Date:		**November 2001**
B:	Department/ Program Area:	**Commerce & Business Admin.**	New Course		Revision **X**
			If Revision, Section(s) Revised:		**H**
			Date Last Revised:		**1998-06: D,F,L,M,N,O,P,Q,R**

C: **BUSN 335** **D:** **Introduction to Biostatistics** **E:** **3**

Subject & Course No. | Descriptive Title | Semester Credits

F: Calendar Description: This course restricted to HISP students is an introduction to biostatistics - statistical methods applied to data derived from biological sciences and medicine. Topics covered include descriptive statistics, probability concepts, probability distributions such as the binomial, Poisson and normal distributions, sampling distribution and linear estimation.

G: Allocation of Contact Hours to Types of Instruction/Learning Settings

Primary Methods of Instructional Delivery and/or Learning Settings:

Lectures and Seminars

Number of Contact Hours: (per week / semester for each descriptor)

Lecture: **3 Hrs.**
Seminar: **1 Hr.**
Total: **4 Hrs.**

Number of Weeks per Semester:

15 Weeks X 4 Hrs per week = 60 Hrs.

H: Course Prerequisites:

Effective September 2002: English 12 with a grade of "C" or better or equivalent.

I. Course Corequisites:

nil

J. Course for which this Course is a Prerequisite:

nil

K. Maximum Class Size:

35

L: PLEASE INDICATE:

- [ ] Non-Credit
- [X] College Credit Non-Transfer
- [ ] College Credit Transfer: Requested [ ] Granted [ ]

SEE BC TRANSFER GUIDE FOR TRANSFER DETAILS (www.bccat.bc.ca)

M: Course Objectives/Learning Outcomes

At the end of the course, the successful student should be able to:

1. organize and summarize health science data;
2. draw a scientific sample from a population;
3. apply the appropriate inferential statistics technique to reach decisions about a population by examining a sample;
4. apply these statistical techniques both manually and using statistical and spreadsheet software.

N: Course Content

1. Simple Random Sample.
2. Frequency distribution.
3. Measures of Central Tendency and Dispersion.
4. Calculating the probability of an event: conditional, joint, marginal probabilities.
5. Probability distributions of discrete variables: Binomial distribution and Poisson.
6. Probability distribution of continuous variable: Normal distribution.
7. Distribution of the sample mean: central limit theorem.
8. Distribution of the sample proportion.
9. Confidence interval for a population mean.
10. The *t*-distribution.
11. Confidence interval for a population proportion.
12. Determination of sample size for estimating means.
13. Determination of sample size for estimating proportion.
14. Confidence interval for the variance of a normally distributed population.
15. Hypothesis Testing: Formulating and testing a research hypothesis, l-tailed tests about a sample mean, type 1 error.

O: Methods of Instruction

Material will be presented primarily in lecture form with some time allocated for classroom discussion, correction of assigned exercises and completing exercise using a statistical software and spreadsheet.

P: Textbooks and Materials to be Purchased by Students:

Daniel, Wayne W. Biostatistics: A Foundation for Analysis in Health Sciences, Latest Ed.
John Wiley and Sons Inc.

Statistical Packages: Any Statistical software packages at the discretion of the instructor.

For ***Minitab software***, the following guide could be used in class:
Ryan, Barbara and Brian Joiner. Minitab Handbook, Latest Ed. Wadworth Inc.

For ***Excel spreadsheet***, one of the following texts could be used:
Berk, K. N. and P. Casey. Data Analysis with Microsoft Excel, Latest Ed.
Course Technology Inc.
Middleton, M. R. Data Analysis Using Microsoft Excel, Latest Ed. Duxbury Press.

Q: Means of Assessment

A final course grade will be determined based on the following:

Semester tests (2-3)	50%
Class participation	0-5%
Assignments and quizzes	15-20%
Final examination	30%
	100%

R: Prior Learning Assessment and Recognition: specify whether course is open for PLAR

No.

Course Designer(s): **Joe Ilsever**

Education Council/Curriculum Committee Representative

DATE: November 2002

Dean/Director: **Jim Sator** Registrar: **Trish Angus**

DATE: November 2002