Douglas College

Course Information

A: Division: **INSTRUCTIONAL** Date: **SEPTEMBER 1998**

B: Faculty: **COMMERCE AND BUSINESS ADMINISTRATION** New Course:

Program: **HEALTH INFORMATION SERVICES** Revision of ~~Course~~ Information form: **FEBRUARY 1980**

C:	D:	E:
BUSN 335	**INTRODUCTION TO BIOSTATISTICS** changed July 27	**3**
Subject & Course No.	Descriptive Title	Semester Credit

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.

Summary of Revisions: was Bistatics
1998-06 Sections: D,F,L,M,N,O,P,Q,R

G: Type of instruction: Hrs per week

Lecture:	3	Hrs.
Laboratory:		Hrs.
Seminar:	1	Hrs.
Clinical Experience:		Hrs.
Field Experience:		Hrs.
Practicum:		Hrs.
Shop:		Hrs.
Studio:		Hrs.
Student Directed Learning:		Hrs.
Other (Specify)		
Total:	4	Hrs.
Semester Total (4 x 15 wks):	60	Hrs.

H: Course Prerequisites: changed
nil

I: Course Corequisites: on banner
nil July 27/2000

J: Course for which this Course is a Prerequisite:
nil MO

K: Maximum Class Size:
35

L:

College Credit Transfer	
College Credit Non-Transfer	X
Non-Credit	.

M: Transfer Credit: Requested: Granted:

Specify Course Equivalents or Unassigned Credit as appropriate:

Course Designer(s): C. Bonanni

Dean: J. Sator

Vice-President, Instruction: J. McKendry

Registrar: P. Angus

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N: 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.

O: COURSE OBJECTIVES

The student will 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.

P: 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, 1-tailed tests about a sample mean, type 1 error.

Q: METHOD 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.

R: COURSE EVALUATION

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%

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