

A. Division: APPLIED PROGRAMS Date: OCTOBER 24, 1989

 B. Department: COMMERCE AND BUSINESS ADMINISTRATION New Course:

 Revision of Course

Dated: _____

 C. BUS 337 D. RESEARCH APPLICATIONS I E. 3
 Subject & Course No. Descriptive Title Semester/Credits

F. Calendar Description:

This course, restricted for HISP program students, is an introduction to statistics in health record information systems with applied computer analysis using SPSS. Topics covered include: preparing data for analysis, describing data, probability distributions, sampling, testing hypotheses, and examining relationships between variables.

Summary of Revisions:
 (Enter date and Section Revised)

 1991-09-12
 Section F,N,O,P

G. Type of Instruction:	Hrs. Per Week	H. Course Prerequisites:
Lecture	<u>2</u> Hrs.	Second semester standing or permission of instructor.
Laboratory	_____ Hrs.	Algebra 12 or equivalent.
Seminar	_____ Hrs.	I. Course Corequisites:
Clinical Experience	_____ Hrs.	nil
Field Experience	_____ Hrs.	J. Courses for which this Course is a Pre-requisite:
Practicum	_____ Hrs.	Research Applications II
Shop	_____ Hrs.	K. Maximum Class Size:
Studio	_____ Hrs.	24
Student Directed Learning	_____ Hrs.	
Other (Specify)	<u>2</u> Hrs.	
Lecture/Practice	_____ Hrs.	
Total	<u>4</u> Hrs.	

 L. College Credit Transfer

 College Credit Non-Transfer

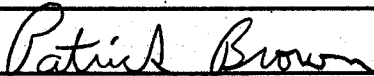
 Non-Credit


 M. Transfer Credit: Requested

 Granted

(Specify Course Equivalents or Unassigned Credit as Appropriate)

 U.B.C.
 S.F.U. X
 U. Vic. X
 Other OLA


 Course Designer(s)


 Divisional Dean


 Director/Chairperson


 Registrar

NAME AND NUMBER OF COURSEN. Textbooks and Materials to be Purchased by Students (Use Bibliographic Form):

Daniel W. Biostatistics: A Foundation for Analysis in the Health Sciences,
5th Edition, Wiley, 1991.

Ray Yu. Research Applications I Manual for BUS 337, Douglas College Printers,
1991.

Complete Form with Entries Under the Following Headings: O. Course Objectives;

P. Course Content; Q. Method of Instruction; R. Course Evaluation

O. Course Objectives:

The student will be able to:

1. describe data using measures of central tendency and variability;
2. utilize SPSS statistical software to extract data from a database (PRISM), conduct basic statistical computations, and analyze the results.
3. calculate the probability of mutually exclusive, dependent or independent events; apply probability distributions to make estimates;
4. identify appropriate sampling techniques in order to make inferences about the population mean or proportion;
5. set up confidence intervals and conduct tests of significance for the population mean, proportion and variance using small or large samples;
6. set up and conduct tests of hypotheses and interpret results;
7. examine relationships between variables using correlation and linear regression.

P. COURSE CONTENT:1. Review of Descriptive Statistics

- scales of measurement
- frequency distributions
- histograms, graphs and diagrams
- averages and variation
- using SPSS for computing frequencies, averages and variance
- cross-tabulation

2. Introduction to SPSS

- setting up a data file
- defining data
- running SPSS/PC+
- the PRISM data base

NAME AND NUMBER OF COURSEP. COURSE CONTENT Continued

3. Probability and Probability Distributions

- approaches to probability
- measures of probability or expectation
- mutually exclusive events
- independent and dependent events
- conditional probabilities
- binomial, normal, and poisson distributions

4. Sampling Theory and Techniques

- types of sampling
- surveys
- sampling distributions

5. Statistical Inference

- population parameters and sample statistics
- sampling distribution of the mean
- standard error of the mean
- first limit theorem and central limit theorem
- estimation of the population mean
- confidence intervals
- sample size
- estimation of the population proportion
- z-scores, t-distribution, chi-square distribution
- using SPSS in statistical inference

6. Hypothesis Testing

- null and alternative hypotheses
- test statistics
- test of significance, decision rule
- Type I and Type II error
- z-test, t-test, chi-square test
- using SPSS to test statistical hypotheses

7. Examining Relationships

- correlation co-efficient (r)
- linear regression
- standard error of the estimate
- co-efficient of determination
- using SPSS to calculate (r) and simple regression lines

Q. METHODS OF INSTRUCTION:

1. Lecture/discussion.
2. Computerized application exercises. A significant component of this course requires individual usage of computer facilities.

R. COURSE EVALUATION:

- | | | |
|----|------------------------------|------------|
| 1. | Assignments (Minimum 4)..... | 40% |
| 2. | Mid-term Exam | 20% |
| 3. | Final Exam | 30% |
| 4. | Participation | <u>10%</u> |

100%
