Course Outline

MA0212FA Fall 2012

Quantitative Methods for Health Scientists

Instructor: Guy Davis , H.B.Sc., M.Sc.(Toronto), B.Ed.(Lakehead)
email: gdavis@lakeheadu.ca

Course Description: An introduction to probability; the binomial, poisson and normal distributions; analysis of data; statistical inference; analysis of variance; linear regression and correlation; nonparametric methods.

Course Outline: This course is an introduction to probability and statistics for Health Scientists. Topics will include: What Statistics can and can't tell us; Populations; Frequency Distributions; Discrete Probability Distributions; Normal Distribution; Confidence Intervals; Hypothesis Design and Testing; Tests of Means, Variances and Proportions; Correlation and Regression; Chi-Square Test; Analysis of Variance.

Goals and Learning Outcomes:

By the end of this course, successful students should be able to:
1. **Understand the meaning of symbols, words and phrases with statistical denotations and connotations.**
2. **Understand the uses and limitations of probability and statistics.**
3. **Critically read assertions and statements using statistical arguments in Health Sciences related and in everyday communications.**
4. **Identify questions, make hypotheses and design simple experiments to test hypotheses about means, variances and proportions.**
5. **Use tables and spreadsheets to test the significance of data.**

Credit: 0.5

Textbook: Bluman, Allan G., Elementary Statistics. Canadian Edition With Istudy Access Card, McGraw Hill ISBN 0071050795

Lab Materials: 2 rolls of used Canadian pennies. These are available at banks and credit unions. Or you can save 100 pennies. (Used for experiments.) Cost: $1.00

Class Website: Information, some content and assignments will be posted online in Desire2Learn. Desire2Learn may be accessed through mycourselinks on the Lakehead University website. Students should check their email (both LU and Desire2Learn) daily.

Participation: Students may be expected to participate in an anonymous survey which will provide data for assignment questions.

Delivery: Lecture 3 hours Lab 1 hour. Lab attendance is expected. Exceptions will be made only for graduating students who have a timetable conflict. Students who cannot attend lectures and labs should consider enrolling in MA0212FDE instead.

Assignments should be completed as a MS Word or Open Office documents and spreadsheets, and handed in the appropriate assignment box on the 2nd floor of the Ryan Building. *Assignments will have a due date for submission, after which assignments will not be marked*.*

*Exceptions will only be made if arranged in advance, or if there is a serious health problem (Doctor's Note Required.)

Computer Software:
Students will need access to an office program such as Microsoft Office or Open Office, with a spreadsheet program, such as MS Excel or Open Office Spreadsheet and a word processor such as MS Word or Open Office Text Editor.

Students not familiar with spreadsheet programs should learn and practice using one of the tutorials available on the Web. E.g. http://spreadsheets.about.com/

Calculator: A scientific calculator will be required for Labs and assignments, and the final exam.

Evaluation:	Weekly assignments & Labs	70%
	Final Exam	30%

Marks will be reported through MyInfo.

Final Exam will be a formal invigilated 3 hour written exam. Dec (Date TBA) 2012.

While students are encouraged to help explain concepts and procedures to other students, and students may seek help from tutors or other people:
students are NOT allowed to give answers to labs or assignments to other students;
students are NOT allowed to divide up a lab or assignment and copy parts from each other;
students are NOT allowed to copy answers from tutors, or any other persons.

Any of the above constitute   Academic Dishonesty

COURSE AND UNIVERSITY POLICIES : Academic Dishonesty

The University takes a most serious view of offences against academic honesty such as plagiarism, cheating and impersonation. Penalties for dealing with such offences will be strictly enforced. A copy of the "Code of Student Behaviour and Disciplinary Procedures" including sections on plagiarism and other forms of misconduct may be obtained from the Office of the Registrar.

The following rules shall govern the treatment of candidates who have been found guilty of attempting to obtain academic credit dishonestly.

(a) The minimum penalty for a candidate found guilty of plagiarism, or of cheating on any part of a course will be a zero for the work concerned.

(b) A candidate found guilty of cheating on a formal examination or a test, or of serious or repeated plagiarism, or of unofficially obtaining a copy of an examination paper before the examination is scheduled to be written, will receive zero for the course and may be expelled from the University.

Students disciplined under the Code of Student Behaviour and Disciplinary Procedures may appeal their case through the Judicial Panel.

Note: "Plagiarism" shall be deemed to include:
 1. **Plagiarism of ideas as where an idea of an author or speaker is incorporated into the body of an assignment as though it were the writer's idea, i.e. no credit is given the person through referencing or footnoting or end noting.**
 2. **Plagiarism of words occurs when phrases, sentences, tables or illustrations of an author or speaker are incorporated into the body of a writer's own, i.e. no quotations or indentations (depending on the format followed) are present but referencing or footnoting or end noting is given.**

Plagiarism of ideas and words as where words and an idea(s) of an author or speaker are incorporated into the body of a written assignment as though they were the writer's own words and ideas, i.e. no quotations or indentations (depending on format followed) are present and no referencing or footnoting or end noting is given.