

## Course Outline

MA0212FDE Fall 2011 ( Web Based)

### Quantitative Methods for Health Scientists

**Instructor:** Guy Davis , H.B.Sc., M.Sc.(Toronto), B.Ed.(Lakehead)  
**email:** [gdavis@lakeheadu.ca](mailto: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 significance of statistics.

**Credit: 0.5**

**Textbook:** Bluman, Allan G.,Mayer, John G., Elementary Statistics. 2<sup>nd</sup> Canadian Edition , McGraw Hill

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

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

**Delivery:** This course is Web Based. All course material, reading assignments from textbook, notes, assignments and quizzes will be available through WebCT.

WebCT, including tutorials on its use, may be accessed through the Lakehead University Website [www.lakeheadu.ca](http://www.lakeheadu.ca).

Click on myInfo, and then WebCT.

Assignments will be electronically submitted by WebCT email. Assignments will have a due date for submission, after which assignments will not be marked\*. Assignments should be started as soon as possible after posting in order to ask questions via Discussion Forum.

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

Communication with the instructor will be through WebCT discussion room or WebCT email. Although the instructor will read and return email at least 3 times per week, students should not assume that emailing on an assignment due date will receive a timely response.

Communication *after the course is finished* must be done through the email address above with MA0212 in the subject heading.

**Computer Software:**

In addition to the computer requirements for on-line courses, students will need 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.

Other forms of submissions may have to be scanned and/or converted to .pdf format. To read .pdf format you will need Adobe Reader

<http://www.adobe.com/reader/>

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:** Calculations will be done with spreadsheets, so no specific calculator is required. However, a scientific calculator may be of use during quizzes.

**Evaluation: Weekly assignments and Quizzes 70%**  
**Final Exam 30%**

**Marks will be reported through MyInfo.**

**Final Exam will be a formal invigilated written exam. July 23, 2011.**

## **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.**