

Course Description:

The course calendar description is given in the UWO online calendar

<http://www.westerncalendar.uwo.ca/>

The course is an introduction to the basic concepts of statistical theory. Included in the syllabus are notions of statistical models, parameter identifiability, point and interval estimation, a paradigm for comparing estimators and statistical inference, method of moments and maximum likelihood estimators, hypothesis testing and application to contingency tables, sufficiency, Bayesian methods, and data analysis. The course will also give an introduction to bootstrap methods, including non-parametric and parametric bootstrap, and the construction of QQ plots. Some of these topics have been introduced to students in earlier courses but are now studied in more depth and some of the topics are new to students.

To facilitate calculations R will be used for some assignments and examples. Some assignments will include the use of computing and simulation methods, done in R. Students from other disciplines may be able to do these in another programming language such as MatLab but should speak with me about the suitability of the software.

Course Objectives

At the end of this course the student should have developed an understanding of why statistical theory has developed as a tool to analyze random or noisy data. This will help the student to apply these ideas to various areas such as actuarial science, financial modeling, scientific, business and other data applications.

Policies:

1. There will be no make up exam the mid-term. Absence at term test will result in a zero, unless permission is obtained from the Faculty of Science Counselors. If the faculty of science counselor agrees with the students reason and supporting documentation, then the entire weight of the mid-term test missed will be counted in the final exam. Their exam will have one question substituted to cover material missed in a term test. Such students *will identify themselves at*

- (a) Responsibility for checking prerequisites Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.
 - (b) Statement on academic offences Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:
http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.
 - (c) Statement on services for students in emotional/mental health distress Students who are in emotional/mental distress should refer to Mental Health@Western
http://www.uwo.ca/uwocom/mental_health/
for a complete list of options about how to obtain help.
 - (d) Accessibility statement Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 x 82147 for any specific question regarding an accommodation
6. If a Student wishes to contact me by email they should use their uwo email. Other addresses are sometimes blocked by spam filters.