Lakehead University

Department of Mathematical Sciences

MATH-2311-WDE – Elementary Statistical Methods – Winter 2022

COURSE OUTLINE

Instructor: **Dr. Deli Li, RB-2003, Ext. 8231,** dli@lakeheadu.ca

Notes: **1. If you e-mail me, please put "MATH-2311" in the Subject line so I can tell that your email is not spam.**
2. This course outline is subject to change. Changes will be announced by emails.

Textbooks: ***Statistics*, 13th Edition** by **James T. McClave** and **Terry Sincich.**
Optional: Student's Solution Manual.

Prerequisite: **MATH-2310**

Credit Weight: **0.5** (Not recognized as a mathematics credit for any Mathematics Major.)

Description:

This course is an introduction to the elementary statistical methods. Techniques include estimation, tests of hypothesis, simple linear regression and correlation, multiple regression, analysis of variance (ANOVA), analysis of categorical data, topics in experimental design, and basic nonparametric statistics. Basically this course will cover Chapters 6, 7, 8, 9, 10, 11, 12, 13, and 14. The instructor reserves the right to add or delete sections to the list.

Learner Outcomes:

Successful students of this course will be familiar with and be able to apply the followings:

- Descriptive statistics methods to summarize data and explore correlations between variables, and give interpretations;
- Analyze and develop the integrity, meaning, and mechanics of the confidence interval reasoning process in inferential statistics using the techniques of descriptive statistics and the concept of probability;
- Analyze and develop the integrity, meaning, and mechanics of the hypothesis testing reasoning process in inferential statistics using the techniques of descriptive statistics and the concept of probability;
- Perform hypothesis testing regarding the population mean, variance, and proportion;
- Use appropriate statistical tests to compare means, variances, or proportions from different populations;
- Linear regression with one or more variables;
- Analysis of variance methods;
- Goodness of fit tests;
- Selected topics such as: non-parametric methods, experimental designs, analysis of covariances;
- Use of statistical software(s).

Lectures:

Tuesdays and Thursdays 05:30 PM - 07:00 PM (10 January - 08 April 2022) via Zoom
Meeting ID: 960 3620 6308, Passcode: 2022
See "Zoom Instructions" at the end of this course outline for access instructions.
Attending lectures is not compulsory. According to historical records, however, there is a positive correlation between regular lecture attendance and the final course mark. Pre-reading related sections in the textbook is expected.

Labs:

Mondays 07:00 PM - 08:00 PM (10 January – 08 April 2022) via Zoom
Meeting ID: 931 7139 3930, Passcode: 2022
See "Zoom Instructions" at the end of this course outline for access instructions.
During the lab hours, you will meet your instructor and ask questions about the course materials and even get help to finish your assignments.

Office Hours:

Tuesdays & Thursdays 12:30 PM – 2:00 PM via Zoom
Meeting ID: 970 2654 3792, Passcode: 2022
Problems that you are having with this course should be either **a)** discussed with your instructor during these office hours, or **b)** sent to Dr. Deli Li's email address at dli@lakeheadu.ca

Performance Evaluation

Six Assignments (25%):

Each set of assignment questions and their due dates will be posted on D2L
It will be your own interest to try to work on the questions yourselves. Solutions to some selected questions will be discussed in the labs. For this reason, it is in your interest to attend the labs. **Each of your assignments must be submitted in the D2L Folder of MATH-2311-WDE by uploading a pdf file of your completed assignment.** Each assignment file must have a cover page with information including course number, assignment number, student's name, and student's ID number. **Late assignments will not be marked under any circumstances. Sloppy writing may face a mark penalty up to 25%.**

Midterm Exam (25%):

The midterm exam will be written during the regularly scheduled class time (05:30 PM – 07:00 PM in D2L) on Thursday 03 March 2022. No make-up test is provided for students who miss writing the midterm exam at the scheduled time. If there is a legitimate (documented) excuse, the final mark will be calculated on the basis of the final exam. Otherwise, a grade of 0% for the missed exam will be averaged with other grades.

Final Exam (50%):

The final exam will be written in the scheduled three hours. It will cover all of the course material. Further details will be provided closer to the exam date.

Notes: Exams will be D2L open books and a non-programmable calculator is allowed.

Marking Disputes: If you feel you have been treated unfairly in the marking of the midterm exam or an assignment, **email your complaint to Dr. Deli Li at dli@lakeheadu.ca**

Drop Date: The final date to withdraw from this course without academic penalty is Friday 11 March 2022.

Academic Dishonesty: All cases of academic dishonesty will be dealt with according to the University's Code of Student Behavior and Disciplinary Procedures, copies of which are available from the Registrar.

Notes:

Lakehead University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities and/or medical conditions to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a disability and think you may need accommodations, you are strongly encouraged to contact Student Accessibility Services (SAS) and register as early as possible. For more information, please contact Student Accessibility Services http://studentaccessibility.lakeheadu.ca (SC-0003, 343-8047 or sas@lakeheadu.ca)

Zoom instructions

In order to access Zoom lectures, follow the steps below:

(1) Go to the D2L page of this course.
(2) Click on "Other Tools" (top right of the page).
(3) A scroll-down menu will appear, scroll all the way down and click on "Zoom".
(4) You will be directed to the "Upcoming Meetings" page in Zoom. All upcoming lectures are listed here. Click to join. Please mute your microphone.