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**ISOM 2500-L6**  
**Business Statistics**  
**Course Description and Schedule**  
**Spring 2024**

Instructor:  
Office:  
Chair Professor, Dept. of ISOM.  
Office Hours: flexible by appointment

Professor Lancelot James  
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Teaching Assistant:  
Office:

Victoria Zhilin Zou  
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Class meets: Jan 31-May 9  
Room: G012 LSK Bldg  
Tuesday and Thursday 1:30 - 2:50  
Holidays 2/13, 3/28, 4/2,4, 5/1

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**Course Objective**

Statistics is the science of collecting, organizing, analyzing and interpreting data. Data loosely equates with information that can somehow be quantified. Naturally statistics plays an important role in every discipline that utilizes data. Statistics is used in such diverse areas as marketing surveys, testing of automobiles or drugs, experimental quantum physics or lotteries. Within a business context statistics can play an important role in decision making (prediction, forecasting) as this may relate to, for instance, assessing the best candidates for hiring, checking whether operations are running smoothly or adjustments need to be made, checking for fraud, predicting trends in the stock market, risk management, and assessing the feasibility of new investments.

In this class the overall goal will be to become familiar and, perhaps most importantly, comfortable with basic but useful statistical methodologies that are relevant to business.

By the end of the course, you should be able to:

- Have a basic understanding of common statistical procedures
- Be able to process and critique reports or information from surveys that are presented to you.
- Be able to decide what statistical techniques are most appropriate to use in a given situation and state their advantages and limitations
- Use statistics as a **component** in decision making
- Be able to perform analysis, using simple regression and other tools, with a view towards multiple regression.
- Be able to present your analysis clearly and in a non-technical fashion both verbally and in written form.
- Have, through homework, coherent discussions with group members about statistics as it relates to problem solving in a business context.
- Understand the general limitations of any statistical procedure as it relates to the quality and amount of data.

- Understand that statistics is not simply about doing calculations. Statistical software can often do this for you
- Overcome any anxiety you may have about taking a statistics course.

### **Course Materials**

The following are REQUIRED for ISOM2500.

- An open and inquisitive mind. Class participation is a must.
- Textbook:
  - (i) *Statistics for Business: Decision Making and Analysis*. by Robert Stine and Dean Foster. (Required)
  - (ii) I may use supplemental material not directly in textbook.
- Statistical Software. I will use two statistical packages JMP and Kstat. Kstat is an Excel Macro developed at Northwestern University. You may use any software you like. This will not be required for exams and quizzes
- Additional required reading assigned by me.

### **General approach**

An essential element in grasping statistical concepts is actively and repeatedly engaging in problem solving and reading. My lectures are designed to give a broad overview of concepts, alert you to some key points and provide further clarification. We will use statistical software for presentation purposes and also to re-inforce the point that formulas are not the primary focus of this course. However, the lectures are not a substitute for practicing. In order to facilitate this you will be given regular homework assignments. The homework will be done in groups. Homework must be completed in a professional/presentable manner. Grading will be done lightly. Solutions will be provided. Warning, materials similar to your homework may appear on your quizzes or exam. You will be given two short multiple choice quizzes to be taken during the regular class time. You will be able to utilize statistical software throughout the class, however you will learn that this is not a substitute for understanding how to use statistics. Moreover, this is not a course on how to use excel for statistics.

### **Grading**

The grade you earn in ISOM2500 will be based on the following activities.

- Individual Class Participation and Professionalism 10% (All students should be able to obtain the maximum points, disruptive behavior, **excessive absences** (see attendance requirements) or refusal to answer questions may result in a lower score)
- In order not to lose 10% participation score -Attendance of at least 18/26 classes, no skipping out early. Attendance of less than 10 classes may result in failure.
- Group Homework 10%
- 2 Quizzes 40% In class  
(A tentative schedule for quiz dates are March 7 and April 11) Quiz 1 content – Material Prior to March 1, Quiz 2 Content – Material from March 1 to March 28(inclusive)
- Final Exam 40%

