ECON 310 - Economic Statistics
Fall - 2023

Instructor: James Saunoris, Ph.D.
Office: 703F Pray-Harrold
E-mail: jsaunori@emich.edu
Office Phone: (734) 487-3068

Class: Mondays & Wednesdays from 9:30-10:45 a.m.
Class Website: https://canvas.emich.edu/
Office Hours: Mondays & Wednesdays from 1:00 p.m.- 3:00 p.m.
and by appointment

Description

Many of the upper division courses in Accounting, Decision Science and Information Systems, Economics, Finance, Management, and Marketing use and build upon the statistical techniques and analysis learned in ECON 310. To master the tools of ECON 310, you need a solid foundation in descriptive statistics, basic probability distributions, estimation, hypothesis testing, and regression analysis. Upon completing ECON 310, you will be able to use statistical techniques such as regression analysis to understand and solve real-world business and economic problems. Furthermore, you will be able to use Excel to analyze data by employing a variety of statistical techniques. At a general level, the goal of ECON 310 is for you to develop a maturity in solving quantitative problems, and being able to understand modeling and the power of statistical techniques.

Prerequisites: MATH 105, MATH 118, MATH 119 or MATH 120

Recommended Textbook

Statistics for Management and Economics by Gerald Keller. Published by Cengage Learning.

The textbook provides supplementary information that complements the lecture notes. In the event that you choose not to purchase the textbook, a viable substitute is the book titled "Introductory Statistics," which is accessible at no cost via OpenStax. You can find it at the following web address: https://openstax.org/details/introductory-statistics.

Required Software

In this course we will be using Microsoft Excel. The University's campus license allows students to install Microsoft Office (Windows, Mac and mobile device versions) at no cost. To obtain the software, log in to https://portal.office.com using your EMU email address (username@emich.edu) and NetID password and then follow the instructions on the page to download and install the application. Microsoft Excel is available on the computer in the Economics Computer Lab located in room 717 in Pray-Harrold.

You are responsible for knowing the basic functionality of Microsoft Excel. There are several resources online that will help you learn the basics of Excel. I suggest the tutorials provided by Microsoft, that are available for Windows users HERE and for Mac users HERE. I encourage you to complete these tutorials by the end of the first week of class.

Evaluation Criteria

Your grade will be based on three exams each worth 25% of your final grade, problem sets worth a total of 10% of your final grade, and a regression project worth 15% of your final grade. The grading scale for the course is as follows:

A...........93-100%   B+..........86-89%   C+..........76-79%   D+..........66-69%   F...........0-59%
A-..........90-92%   B...........83-85%   C...........73-75%   D...........63-65%
                      B-..........80-82%   C-..........70-72%   D-..........60-62%

Exams

There will be a total of three exams, including the final exam. The final exam is not comprehensive and will cover the material following the second exam. The exams will be based on material covered in class. Each exam will consist of short-answer questions and problems and may require the use of Microsoft Excel. Tentative dates for the exams will be announced on Canvas and via email. Each exam is worth 25 percent of your final grade.

Make-up exams will only be given in certain circumstances. However, once you take an exam, you will not be allowed to re-take it. I reserve the right to judge what types of reasons are legitimate. You must secure from me permission to miss an exam **before** the exam (if possible). You will receive a grade of zero for any exam that you miss for which you do not have an excused absence.

Academic dishonesty is unacceptable and will not be tolerated. If you are caught cheating on an exam you will receive a grade of zero and the incident will be referred to the Office of Student Conduct and Community Standards for investigation.

Problem Sets

There will be approximately one problem set assigned for each lecture. This means there will be ten problem sets throughout the semester. I allow you to drop one problem set, therefore, your final grade will be based on the highest grade achieved on nine of the ten problem sets. The problem sets will be posted on Canvas together with the data needed to complete the assignment. Problem sets usually consist of questions that require data analysis using Excel. The problem sets need to be turned in on Canvas, and you must turn in your own problem set (no copying!). Evidence that students copied assignments from other classmates will result in a zero for that assignment for all students involved. Answers to problem sets will be uploaded to Canvas after the due date. No late assignments will be accepted. Problem sets are graded on an all or nothing basis. This means that you must attempt EVERY question to receive credit, otherwise you receive a zero for the problem set. Collectively, the problem sets are worth 10 percent of your final grade.

Regression Analysis Project

This project requires you to conduct an empirical study using regression analysis. In essence, you will be able to use the tools learned in class to do statistical research. The project will consist of a formal report including a data analysis in Excel along with a write up of the results and answers to specific questions. A complete description for the project will be posted on Canvas later in the semester. The project is worth 15 percent of your final grade.

Canvas

Canvas, EMU's learning management system, is integral to the course and will be used extensively. You will use Canvas to access necessary course files, turn in problem sets and exams, communicate with me, receive announcements, and keep track of your grades. You must be able to access the Canvas course page to complete this course. If you are having problems using Canvas, please refer to the following link for help: https://www.emich.edu/elearning/support/index.php

Grievance Policy

Anyone feeling that a dispute exists after the grading of an exam may submit a written grievance. The grievance should identify the item in dispute and provide arguments supporting your position. Grievances must be submitted via email to me within three days after the conclusion of the exam. If you do submit a grievance, then I reserve the right to re-grade your entire exam.

Classroom Conduct

Any successful learning experience requires mutual respect. Neither instructor nor student should be subject to behavior that is rude, disruptive, intimidating, or demeaning. Views may differ on what counts as rudeness or courtesy. If you are not sure what constitutes good conduct in this classroom, ask the instructor. The instructor has primary responsibility for and control over classroom behavior and maintenance of academic integrity.

Students are expected to adhere to the standards and expectations detailed in the Student Handbook. In addition, cell phones, side conversations, tardiness, foul language, and the use of open laptops and ipads/tablets for purposes other than for class will not be tolerated. These are very disruptive to students and if the problem persists I will ask you to leave. If you are caught cheating I will give you a zero for that assignment/exam. This includes using Large Language Models (e.g., ChatGPT) to complete your exam. If the problem persists I will take further action.

University Policies

In addition to the articulated course specific policies and expectations, students are responsible for understanding all applicable University guidelines, policies, and procedures. For resources related to staying healthy Click Here. The EMU Student Handbook is the primary resource provided to students to ensure that they have access to all University policies, support resources, and students' rights and responsibilities. Changes may be made to the EMU Student Handbook whenever necessary, and shall be effective immediately, and/or as of the date on which a policy is formally adopted, and/or on the date specified in the amendment. Please note: Electing not to access the link provided below does not absolve a student of responsibility.

For questions about any university policy, procedure, practice, or resource, please contact the Office of the Ombuds: 248 Student Center, (734) 487-0074, emu_ombuds@emich.edu, or visit the website: http://www.emich.edu/ombuds

University course policies link: http://www.emich.edu/studenthandbook/policies/academic.phpuniv

Disability Concerns

I am dedicated to creating an accessible, inclusive, and inviting learning environment for all students, including those who may have disabilities that could impact their participation in this class. If you believe you may have trouble participating or effectively demonstrating learning in this course, please contact me (with or without an accommodation letter from the Disability Resource Center) to discuss reasonable accommodations. Requests for accommodations by persons with disabilities may be made by contacting the Disability Resource Center (DRC) (246 Student Center; (734) 487-2470; swd_office@emich.edu). Once your eligibility for an accommodation has been determined, you will be issued a letter of accommodation (LOA). Please present your LOA to me at the start of the academic semester or once it has been distributed to you by the DRC. You are welcome to contact me at any point in the semester about such issues, but it is best if we can talk at least one week prior to the need for any modifications.

University Writing Center

The University Writing Center (UWC) offers writing support to all EMU undergraduate and graduate students. In doing so, they value the diversity of our campus and honor all students and the languages they bring with them to the university. The UWC offers three types of support, each of which provides students with focused feedback and with strategies for the development of ideas and for revision.

Holman Success Center

The Holman Success Center provides Academic Support (including tutoring) through a variety of virtual and in-person services.

Academic Advising

Academic Advisors are available to all undergraduate students for both in-person and virtual advising appointments to assist them with their academic major/minor, General Education questions, and graduation requirements. Students can schedule advising appointments through Academic Advising.

University Library

Library research support is available to all students. This includes getting started with research, identifying sources to search, developing search strategies, evaluating resources, and more. See https://www.emich.edu/library/help/ask.php for all of the ways in which you can get help with research, including both in-person and remotely through online chat and appointments with librarians.

Sexual Misconduct Prevention Response Office (formerly Title IX Office)

Title IX of the Education Amendments of 1972 prohibits discrimination on the basis of sex under any education program or activity receiving federal financial aid. Sexual assault and sexual harassment is a form of sex discrimination prohibited by Title IX. What you need to know about Title IX.

Student and Exchange Visitor Statement (SEVIS)

The Student Exchange Visitor Information System (SEVIS) requires F and J students to report numerous items to the Office of International Students & Scholars (OISS).

Tentative Topics to be Covered

1. Introduction to Statistics (Chapter 1)

2. Descriptive Statistics - Graphical Techniques (Chapters 2 & 3)

3. Descriptive Statistics - Numerical Techniques (Chapter 4)

4. Probability (Chapter 6)

5. Random Variables & Discrete Probability Distributions (Chapter 7)

6. Continuous Probability Distributions (Chapter 8)

   Exam 1

7. Sampling Distributions (Chapter 9)

8. Estimation (point & interval) (Chapter 10)

9. Hypothesis Testing (Chapter 11)

10. Population Proportions (Chapters 9.2 & 12.3)

    Exam 2

11. Simple Linear Regression (Chapter 16)

12. Multiple Linear Regression (Chapter 17)

13. Analysis of Variance (ANOVA) (Chapter 14)

    Exam 3

*This syllabus is subject to change. If I do make changes, I will email the revised syllabus and announce them in class.