

**ECON 202-01 Economic Statistics
Fall 2022**

Instructor: Shiyi Chen

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Office: Quigley Hall 211

Office Hour: M 11:00am – 1:00pm, W 11:00am – 1:00 pm, TH 2:00pm – 4:20 pm

Lecture: M/W/F, 10:00am – 10:50am, Quigley Hall 215

Course Description:

The purpose of this course is to introduce students to the basic concepts of statistics: graphical and numerical descriptive statistics, probability distributions and random variables, sampling distributions, estimation, and tests of statistical significance. The course will also introduce students to simple linear regression (fitting a line to a scatter plot). After completing this course, students are expected to know how to use Excel/Stata and interpret the results generated by statistical software.

Suggested Textbook:

Gerald Keller, *Statistics for Management and Economics*, 11th Edition
ISBN-13: 978-1285425450
ISBN-10: 1285425456

Disability Information:

Students with disabilities who believe they may need accommodations in this class are encouraged to contact Disability Services at 332-2898 or disabilityservices@allegheny.edu. Disability Services is located in Pelletier Library. Please contact that office as soon as possible to ensure that such accommodations are implemented expeditiously. For further information, see: <http://sites.allegheny.edu/disabilityservices/>

Religious Holidays:

If you need to miss class due to a religious observance, please let me know in advance so we can make arrangements to cover material from that day. For further information, see: <http://sites.allegheny.edu/religiouslife/religious-holy-days/>

Course Objectives

Course Objectives	Assessment Method in Class	Learning Outcomes (see below)
Objective 1, 2	Homework & Exams	Goal 1, 2, 3, 4, and 5

Students Learning Goals and Objectives

Goal 1: Our students will propose solutions to statistics problems.

Objective 1: To conduct appropriate statistical analysis of data and interpret statistical results.

Goal 2: Our students will think critically.

Objective 1: (a) to identify vital questions and issues; (b) to collect relevant information and test against relevant criteria and standards; and (c) to defend the inferences made from the information.

Goal 3: Our students will be effective communicators.

Objective 1: To develop clear, concise, audience-appropriate, and grammatically correct written messages.

Objective 2: To develop clear, concise, audience-appropriate, and grammatically correct oral messages.

Goal 4: Our students will apply their knowledge of diversity to make economic decisions.

Objective 1: To apply skills and concepts covered in this course to evaluate the impact of economic problems.

Goal 5: Our students will be quantitatively and technologically competent.

Objective 1: To apply appropriate statistical, mathematical, and technological tools to solve problems or make inferences regarding problems commonly encountered in economics.

Student Responsibilities:

1. Participation in class

Class attendance is important to keep a record of your lecture notes and understand the materials.

You are responsible for catching up on any material covered in case you miss class.

2. Class assignments

You must complete each homework by the due date and time. I reserve the right to lower your grade on any homework you submit after the deadline – the later the submission, the higher the penalty will apply to your grade. You are responsible for keeping track of submission dates for homework.

Methods of Evaluation:

1. Mid-term Exam (20%)
2. Homework * 5 (45%) – on Canvas
 - a. HW1 7%
 - b. HW2 8%
 - c. HW3 9%
 - d. HW4 10%
 - e. HW5 11%
3. Final Exam (30%)
4. Participation (5%)

Tentative Schedule

- Week 1:** Week of Aug. 30, 2022
What is statistics?
The types of economic data
- Week 2:** Week of Sep. 5, 2022
Graphical descriptive techniques
- Week 3:** Week of Sep. 12, 2022
Numerical descriptive techniques
HW 1 due on Sep. 16
- Week 4:** Week of Sep. 19, 2022
Numerical descriptive techniques
Lab
- Week 5:** Week of Sep. 26, 2022
Data collection and sampling
- Week 6:** Week of Oct. 3, 2022
Probability theory
HW 2 due on Sep. 30
Midterm exam on Oct. 7

Week 7: Week of Oct. 10, 2022
No class on Oct. 10 (Fall break)
Random variable and discrete probability distribution

Week 8: Week of Oct. 17, 2022
Random variable and discrete probability distribution

Week 9: Week of Oct. 24, 2022
Continues probability distribution
HW 3 due on Oct. 28

Week 10: Week of Oct. 31, 2022
Continues probability distribution
Lab

Week 11: Week of Nov. 7, 2022
Sampling distribution

Week 12: Week of Nov. 14, 2022
Hypothesis testing
HW 4 due on Nov 18

Week 13: Week of Nov. 21, 2022
Hypothesis testing
Thanksgiving Break

Week 13: Week of Nov. 28, 2022
Simple Linear regression
Lab

Week 14: Week of Dec. 5, 2022
Review and beyond
HW 5 Due on Dec. 7

Week 15: Week of Dec. 12, 2022

COMPREHENSIVE FINAL EXAM (Dec. 19, 2022; Time: 9am)