

**Endicott College
Beverly, Massachusetts**

**School of Science and Technology
Department of Mathematics and Computer Science
Course Syllabus**

Course Overview

Course No: MTH 126-05
Course Title: Applied Statistics
Credits: 3
Class Type: Lecture
Semester and Year: **Fall 2023**

Faculty:

Office Location: Room 132 Judge Science Center
Telephone: (978)-314-1947
Email: mkaufman1@endicott.edu
Office Hours: MWF 9:00am-10:00am

Catalog Description

Introduces the student to applied statistical methods used in industry and scientific applications. Emphasis is on the practical aspects as students use descriptive and inferential statistics to analyze real data in applications of hypothesis testing, ANOVA, and linear regression and correlation. *Satisfies the Quantitative Reasoning General Education requirement.*

Learning Outcomes

At the completion of this course, students will be able to:

1. Use technology, such as spreadsheets or statistical software, to store, manipulate, and analyze data.
2. Generate appropriate visualizations and summary statistics, and correctly communicate trends and information conveyed by them.
3. Discuss the role of probability in accounting for sampling error.
4. Choose, compute, and interpret appropriate inferential statistics techniques for problem solving and provide accessible descriptions of the results.
5. Increase critical thinking and problem-solving skills.

Teaching/Learning Strategies

Outside reading and videos, group work and discussion, lecture, homework assignments, Excel or Google Sheets assignments, quizzes, and exams.

Required Readings

Introduction to Statistics: Think & Do, v4.1, Scott Stevens, Worldwide Center of Mathematics, LLC, 2015.

Student will be required to purchase a WebAssign license for this class; this license comes with a free e-copy of the textbook. See directions in Canvas.

Evaluation Methods

Semester grades will be calculated using the following percentages:

Homework (20%)

Homework assignments are due before class on Fridays.

Attendance & Participation (10%)

Students that miss 5 or more classes will automatically be withdrawn from the course. Late attendance will have a negative effect on your grade.

In-class group quizzes and participation will be graded for additional assessment of this item.

In-class Exams (40%)

There will be three in-class exams, one for each unit we study.

Final Exam (30%)

Academic Integrity Statement

Students are required to abide by the [Academic Integrity Policy](#) of Endicott College.

Turnitin Policy

By taking this course, students agree that all required assignments may be subject to submission for "similarity review" to Turnitin.com, a tool intended to not just detect instances of plagiarism, but to prevent it as well. The tool is intended to help students identify passages that are unoriginal, incorrectly cited, or lacking appropriate source information. Submitted assignments may also be archived in the Turnitin.com database for the purpose of checking for possible future instances of plagiarism, additional similarity searches, and other educational purposes at the discretion of the instructor.

Accessibility Services

If you believe that you qualify as a person with a disability as defined by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act Amendments Act of 2008 (ADAAA), you are encouraged to register with the Accessibility Services Office to request accommodations and support. Accessibility Services is located on the 2nd Floor of the Diane M. Halle Library. Please visit the [Center for Accessibility Services website](#) and you may contact Accessibility Services at access@endicott.edu with any questions.

Academic Support

The Division of Academic Success believes that every student can benefit from having a thought partner who supports their learning. We offer innovative and individualized services that motivate you as you pursue your educational goals:

- **Content and Writing Tutoring:** Work with content tutors who can help you understand, remember, and apply course content, or with writing tutors who will support your growth as writers and thinkers. Students can schedule free tutoring sessions on [TutorTrac](#) or stop by Halle Library 204.
- **Quick-Connect Coaching:** Meet with a professional academic coach for thirty minutes to devise a solution to an immediate challenge, including unpacking a difficult assignment, creating a specific study schedule for an upcoming assessment, prioritizing multiple responsibilities, and more. Students can schedule free quick-connect sessions on [TutorTrac](#) or stop by Halle Library 204.
- **Academic Coaching:** Grow your academic self-awareness and deepen your connection to your education by partnering once, twice, or three times a week with a professional academic coach to: develop and deepen academic confidence, resilience, and grit; develop time management and organizational systems and strategies; learn how to set and adjust goals; and recognize how to best utilize resources. This program has an additional cost. To enroll in academic coaching, students can email academiccoaching@endicott.edu.
- **Workshops:** Our semester workshops help students build skills in crucial areas for learning and succeeding: time management, goal setting, note-taking strategies, and metacognition. See [the website](#) for a complete list of programs.

Course Expectations

For each credit hour students are expected to spend a minimum of two hours on work outside of class each week. For this **three-credit** course that means a minimum of **six hours** each week.

Students must review the online [Academic Calendar](#) published by the Registrar's Office.

Class attendance is expected of all students up to and including the last day of scheduled Finals in the semester. Students must plan accordingly.

Topical Outline and Timeline

Week or Class	Topic	Reading	Assignment
Week 1	Syllabus, expectations, course overview		
Week 2	Sampling and Data	Chapter 1	Webassign HW 1
Week 3	Descriptive Statistics	Chapter 2	Webassign HW 2
Week 4	Statistical Tables and Graphs	Chapter 3	Webassign HW 3
Week 5	Introduction to Probability Exam on Chapters 1, 2, 3	Chapter 4	Webassign HW 4
Week 6	The Binomial Distribution	Chapter 5	Webassign HW 5
Week 7	The Normal Distribution	Chapter 6	Webassign HW 6
Week 8	Confidence Intervals	Chapter 7	Webassign HW 7
Week 9	Review and Exam Chapters 4, 5, 6, 7	Chapter 8	
Week 10	Hypothesis Testing - One Sample	Chapter 8	Webassign HW 8
Week 11	Hypothesis Testing - Two Samples	Chapter 9	Webassign HW 9
Week 12	Introduction to Scatter Plots Exam Chapters 8, 9	Chapter 10	
Week 13	Thanksgiving Break		
Week 14	Correlations and Linear Regression	Chapter 10	Webassign HW 10

Week 15	Additional Hypothesis Tests Review for Exam	Chapter 11	Webassign HW 11
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Subject to Change Statement

This syllabus is subject to change and it is your responsibility to be updated with possible changes that will be announced in class or via email during the course of the semester.