



Course Number, Title and Credits

MATU 203 - Introduction to Statistics - 3 credits

Course Catalog Description

Prerequisite: MATU 099 or higher. This course presents an introduction to statistics and its practical applications. Topics include methods of sampling, graphical representation of data, descriptive statistics, elementary probability principles, discrete and continuous random variables, probability distributions, Central Limit Theorem, confidence intervals, hypothesis testing, correlation and regression, goodness-of-fit, and contingency tables. Students will explore the use of data analysis and statistical methods in the disciplines of business, health sciences, education, and social sciences. Computer software for statistical analysis of application problems is required. 3 credits.

Learning Outcomes and Assessment

Learning Outcomes are statements that specify what learners will know, understand, or be able to demonstrate at the end of a learning experience.

Types of Learning Outcomes include:

- Course Learning Outcome – Result of finishing a course.
- Program Learning Outcome – Result of finishing a program.
- Institutional Learning Outcome – Result of finishing a degree at an institution, reflecting the core learning values and experiences of all graduates.

A Signature Assignment is an assignment used to measure a student's mastery of a program or institutional learning outcome. If a course you are taking includes a Signature Assignment, it will be clearly marked (**SIGNATURE ASSIGNMENT**).

[Click here](#) to access information on the Program Learning Outcomes (PLOs) and/or Institutional Learning Outcomes (ILOs) and Curriculum Map related to this course.

Prerequisites

(MATU 10000 OR MATU 30000 OR MATU 099 OR MATU 103 OR MATU 104)

Essential Equipment

All students must have reliable access to a working computer with Internet access throughout each week of the class. Each student will need to be able to access and work in the University's online Learning Management System, Blackboard. For more information about personal computer requirements [click here](#).

Additional Required Equipment and Facilities

- MyMathLab access code (can be purchased with a hardback textbook, or purchased independently from www.mymathlab.com - see Textbook section below for cost options)
- Scientific calculator (free online versions available)
- Statistics software package (comes free with subscription to MyMathLab)
- MyMathLab login and requested software installation

Academic Integrity

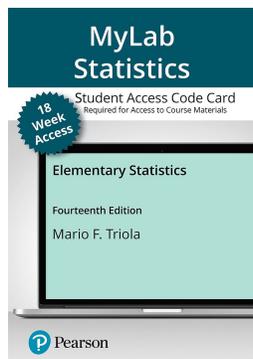
As a learning community of scholars, the University of Massachusetts Global emphasizes the ethical responsibility of all its members to seek knowledge honestly and in good faith. Students are responsible for doing their own work, and academic dishonesty of any kind will not be tolerated. "Violations of academic integrity include, but are not limited to, cheating, plagiarism, or misrepresentation of information in oral or written form. Such violations will be dealt with severely by the instructor, the dean/center director, and the standards committee. Plagiarism means presenting someone else's idea or writing as if it were your own. If you use someone else's idea or writing, be sure the source is clearly documented." Other guidelines for acceptable student behavior are specified in the University Catalog.

UMass Global online library resources: <https://www.chapman.edu/library/umassglobal>

University Policies

Students are responsible for complying with university policies including, but not limited to: incompletes, course drops, and student conduct. Information may be found in the

Required Textbooks



MyLab Statistics with Pearson eText -- 18 Week Instant Access -- for Elementary Statistics, 14th Edition

Required
9780137374748

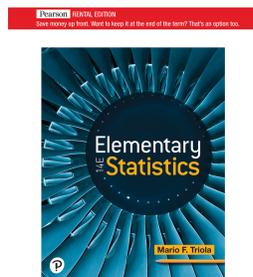
For courses in Introductory Statistics.

This ISBN is for the 18-week MyLab instant access code. Pearson eText is included.

Real data brings statistics to life

From cybersecurity to drones and Internet traffic, statistics influences and shapes the world around us. Market-leading author Marty Triola is committed to keeping Elementary Statistics current with an unprecedented amount of new real data to help students of all majors understand the role of statistics in the world around us. The revision continues to bolster the hallmarks that have made it so effective, giving students the foundational skills to apply statistical procedures and interpret data. Updates in the 14th Edition keep the text and MyLab® more relevant and supportive than ever with a wealth of new data sets, exercises, and examples along with larger data sets, content updates, and new videos to support students.

Mario F. Triola
Pearson
2022
14th ed.



Elementary Statistics [RENTAL EDITION], 14th Edition

Optional physical textbook version of eText. Must still purchase eText.

9780136803201

This print textbook is available for students to rent for their classes. The Pearson print rental program provides students with affordable access to learning materials, so they come to class ready to succeed.

Renting a physical textbook is optional. Students must purchase MyLab Statistics with Pearson eText above

Mario F. Triola
Pearson
2022
14th ed

All student textbooks are available at the University of Massachusetts Global Bookstore:

<https://www.bkstr.com/umassglobal/home>

Course Learning Outcomes

Upon completion of this course, students will be able to:

1. Define and interpret basic statistical concepts.
2. Calculate and analyze descriptive statistics including: measures of central tendency (mean, median, mode) and measures of dispersion (range, variance, standard deviation, percentiles, five number summary) of a population or sample.
3. Create and understand graphs and charts (histograms, frequency distributions, boxplots, pie charts, normal curves, and contingency tables).
4. Understand basic probability theory.
5. Compute and analyze confidence intervals.
6. Use the binomial, normal, t, F, and chi-square probability distributions.
7. Understand hypothesis testing (null/alternative hypothesis, one/two tailed tests, significance levels, significance test, p-values).
8. Calculate and interpret inferential statistics including: z-test, t-test, chi-square, contingency tables, correlation, and regression.
9. Determine which statistical procedure to use and interpret statistical outcomes.
10. Apply knowledge of statistics to a cumulative final project.

Major Study Units

First Study Unit: Descriptive Statistics

- a. Variables and Measurement
- b. Summarizing and Graphing Data
- c. Measures of Central Tendency
- d. Measures of Variation
- e. Probability & Discrete Probability Distributions
- f. The Normal Distribution & Central Limit Theorem

Second Study Unit: Inferential Statistics

- a. Confidence Intervals
- b. z-tests and t-tests
- c. and F tests
- d. Correlation and Regression
- e. Goodness of Fit
- f. Contingency Tables

Instructional Strategies

This class includes readings, textual and video instruction, exercises, discussions, and projects. Instructional Strategies are further explained in the Blackboard course shell.

Attendance Policy

Requirements for student attendance and participation will be defined by each instructor based on the following policy:

- Monday of the first week is considered the first day of class for online and blended instruction. This includes instruction for fully online classes and online instruction supporting blended classes.
- Regular onsite attendance is expected for student success. If a student misses more than one onsite class or one week of engagement in an online class, the student may, at the discretion of the instructor, fail the course. Students are expected to attend all classes, particularly the first night of class.
- Students who will miss more than one class have the responsibility to discuss their attendance with the instructor in advance. Students should also consider withdrawing from a course if they will be absent more than once. Instructors may, but are not obligated to, accommodate students under extraordinary circumstances, but the student must request accommodation and provide requested supporting documentation.
- If a student misses a portion (e.g., arriving late or leaving early) of an onsite course, the student's grade may be adversely affected. Students who are not in attendance for at least 75 percent of any scheduled class may be considered absent for that class. Students should discuss missing portions of a class with their instructor to determine how their grade may be affected.
- Regular online attendance/participation and engagement is expected for student success in both fully online and blended courses. Online participation is evident through posting to a discussion board, wiki, virtual office or classroom meeting, a

drop box, attending a virtual seminar, completing real-time activities or quizzes, or other course-related activities (synchronous or asynchronous).

- Schools and programs may have different attendance policies. Refer to school and program specific information for additional attendance policies.

Letter Grade/Percentage Equivalents

Grade Point System (Rounded up at .5 and up)

A = 94%-100%	B = 84%-86%	C = 74%-76%	D = 64%-66%
A- = 90%-93%	B- = 80%-83%	C - = 70%-73%	D - = 60%-63%
B+ = 87%-89%	C+ = 77%-79%	D+ = 67%-69%	F = 59% and below

Methods of Evaluation for Determining Grades

Assignment Detail for Fully Online Course:

Assignments for Blended course	Total Possible Points
<p>Discussion Board (9 @ 25 pts)</p> <p>As part of the participation grade, weekly discussions will be posed. Students will be required to answer the initial post by the instructor, as well as respond to two other classmates each week. Real examples using statistics will be discussed.</p>	225
<p>Technology Assignments (7 @ 25 pts)</p> <p>Assignments utilizing statistical software will be due every week, other than Week 8. Students will use a statistical software package (Statcrunch, Statdisk, or Excel) to generate statistics and graphs in order to answer questions.</p>	175
<p>Homework (8 @ 25 pts)</p>	200

<p>Math problem-set homework assignments are found by going to www.mystatlab.com. There is one homework assignment each week, other than Week 8, and an additional orientation assignment in Week 1. Each homework assignment, including the orientation, is worth 25 points. You may repeat each question on the homework until you get the correct answer.</p>	
Final Project: Parts 1 and 2 (Class project analyzing a given set of data)	100
Final Project	200
Final Exam	100
<p>A 100-point, 30-question, multiple-choice cumulative final exam based upon the cumulative material learned in class will be completed in Week 8. The final exam is open book and technology may be used.</p>	
	Total: 1000

Class by Class Outline for Fully Online Course:

Week	Topics	Assignments
Week 1	Overview- Collecting, Summarizing and Graphing Data	Read Chapters 1 and 2 MyStatLab Orientation Assignment MyStatLab Homework #1 Online Threaded Discussion Introductions Online Threaded Discussion Topic #1 Online Technology Assignment #1
Week 2	Describing and Comparing Data	Read Chapter 3 MyStatLab Homework #2 Online Threaded Discussion Topic #2 Online Technology Assignment #2
Week 3	Introduction to Probability; Discrete Probability Distributions;	Read Chapters 4 and 5 MyStatLab Homework #3 Online Threaded Discussion Topic #3 Online Technology Assignment #3
Week 4	The Normal Probability Distribution; Central Limit Theorem	Read Chapter 6 MyStatLab Homework #4 Online Threaded Discussion Topic #4 Online Technology Assignment #4

		Final Project - Parts 1 and 2
Week 5	Confidence Intervals, Estimates, and Sample Size	Read Chapter 7 MyStatLab Homework #5 Online Threaded Discussion Topic #5 Online Technology Assignment #5
Week 6	Hypothesis Testing; Inferences from One Sample and Two Samples	Read Chapters 8 and 9 MyStatLab Homework #6 Online Threaded Discussion Topic #6 Online Technology Assignment #6
Week 7	Correlation and Regression; Goodness of Fit; Contingency Tables	Read Chapters 10 and 11 MyStatLab Homework #7 Online Threaded Discussion Topic #7 Online Technology Assignment #7
Week 8	Review	Review Chapters 1-11 Online Threaded Discussion Topic #8 Final Project Due - Parts 1-4 Final Exam

Methods of Evaluation for Determining Grades

Assignment Detail for Blended Course:

Assignments for Blended course	Total Possible Points
Discussion Board (9 @ 25 pts) As part of the participation grade, weekly discussions will be posed. Students will be required to answer the initial post by	225

the instructor, as well as respond to three other classmates each week. Real examples using statistics will be discussed.	
Technology Assignments (7 @ 25 pts)	175
Assignments utilizing statistical software will be due every week, other than Week 8. Students will use a statistical software package (Statcrunch, Statdisk, or Excel) to generate statistics and graphs in order to answer questions.	
Homework (8 @ 25 pts)	200
Math problem-set homework assignments are found by going to www.mystatlab.com . There is one homework assignment each week, other than Week 8, and an additional orientation assignment in Week 1. Each homework assignment, including the orientation, is worth 25 points. You may repeat each question on the homework until you get the correct answer.	
Final Project: Parts 1 and 2 (Class project analyzing a given set of data)	100
Final Project	200
Final Exam	100
A 100-point, 30-question, multiple choice cumulative final exam based upon the cumulative material learned in class will be completed in Week 8. The final exam is open book and technology may be used.	
	Total: 1000

Class by Class Outline for Blended Course:

Week	Topics	Assignments
Week 1	Overview- Collecting, Summarizing and Graphing Data	Read Chapters 1 and 2 MyStatLab Orientation Assignment MyStatLab Homework #1 Online Threaded Discussion Introductions Online Threaded Discussion Topic #1 Online Technology Assignment #1
Week 2	Describing and Comparing Data	Read Chapter 3 MyStatLab Homework #2 Online Threaded Discussion Topic #2 Online Technology Assignment #2
Week 3	Introduction to Probability; Discrete Probability Distributions;	Read Chapters 4 and 5 MyStatLab Homework #3 Online Threaded Discussion Topic #3 Online Technology Assignment #3
Week 4	The Normal Probability Distribution; Central Limit Theorem	Read Chapter 6 MyStatLab Homework #4

		Online Threaded Discussion Topic #4 Online Technology Assignment #4 Final Project - Parts 1 and 2
Week 5	Confidence Intervals, Estimates, and Sample Size	Read Chapter 7 MyStatLab Homework #5 Online Threaded Discussion Topic #5 Online Technology Assignment #5
Week 6	Hypothesis Testing; Inferences from One Sample and Two Samples	Read Chapters 8 and 9 MyStatLab Homework #6 Online Threaded Discussion Topic #6 Online Technology Assignment #6
Week 7	Correlation and Regression; Goodness of Fit; Contingency Tables	Read Chapters 10 and 11 MyStatLab Homework #7 Online Threaded Discussion Topic #7 Online Technology Assignment #7
Week 8	Review	Review Chapters 1-11 Online Threaded Discussion Topic #8 Final Project Due - Parts 1-4 Final Exam

Americans with Disabilities Act Statement

For students who require disability-related services or accommodations to access to their educational experience can register with the Office of Accessible Education (OAE). The Office of Accessible Education (OAE) is committed to ensuring equal educational access and opportunity for all members of our academic community. Students will be provided equitable and reasonable accommodations and services that are in compliance with [Section 504 of the Federal Rehabilitation Act of 1973](#) and the [Americans with Disabilities Act of 1990 \(ADA\)/Americans with Disabilities Act Amendments Act of 2008 \(ADAA\)](#). Registration with OAE is on a voluntary, self-identifying basis. Please visit the [Office of Accessible Education \(OAE\)](#) website for more information about how to register

for services, eligibility requirements, and information about potential academic accommodations and services.

UMass Global's Behavioral Intervention Team

The University of Massachusetts Global Behavioral Intervention Team (BIT) addresses situations in which students, faculty, staff, vendors, contractors, or general visitors are displaying behaviors that are concerning, disruptive, or threatening in nature and that potentially impede their own or others' ability to function successfully or safely. The mission of the University Behavioral Intervention Team is to provide a proactive and supportive multidisciplinary team approach to prevention, assessment, and early intervention of situations or individuals that may pose a threat to the safety and wellbeing of themselves or the University community as a whole.

It is the responsibility of faculty, staff, and students to immediately report any situation that could possibly result in harm to anyone at the University to the BIT by calling 949-383-3119, emailing safe@umassglobal.edu, or by filling out the BIT referral form [here](#). For more additional information on the University Behavioral Intervention Team, please visit our website [here](#). A "crisis" is defined as a situation in which a person may pose an active or immediate risk of violence to self or others. In these cases, the local police should be contacted by calling 911.

UMass Global's Title IX Statement

The University of Massachusetts Global strives to maintain and foster a climate that promotes respect and human dignity. Sexual misconduct and relationship violence in any form is antithetical to the university's mission and core values, violates university policies, and may also violate federal and state law. The office of Title IX is primarily concerned for students' safety and well-being and is tasked with investigating all reports of sexual misconduct experienced by our community members. Title IX prohibits sex-based and gender-based discrimination and harassment, which includes discrimination based on pregnancy and/or pregnancy-related complications, parental status, and marital status. Students expecting or experiencing pregnancy-related complications, that may require educational accommodations, should contact the University's Title IX Coordinator and/or the Office of Accessible Education.

The University and Title IX's prohibition of sex discrimination also covers sexual harassment, sexual violence, and any other form of sexual misconduct. We offer options and resources to all students affected by these issues and are committed to providing a fair, thorough, and prompt investigation and adjudication process. If you or someone you know has been impacted by sexual assault, dating, and domestic violence, stalking,

or sexual exploitation, please visit the [University's Title IX Resource Page](#) to access additional resources and information.

UMass Global's staff and faculty are tasked with reporting any possible sex or gender-based discrimination or Title IX violations to the University's Title IX Coordinator at civilrightscomplaints@umassglobal.edu.

[Click on this Link to our University Title IX Policy](#).