RUTGERS
School of Business | Camden

Applied Business Statistics 52:135:216:90

Syllabus, 2024 Fall

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Office location: Distance Learning
Office phone: Please leave message with College of Business Office at 856-225-2596
Office Hours: By appointment
Class meetings: Distance Learning

Required Text, Online Tools and Software

The required text for this course is:

Business Statistics (4th ed.), by Sharpe, De Veaux, and Velleman, Pearson, 2019.
ISBN-13: 9780134705217

Students are required to purchase the eText/eBook and MyLab access. (see below).

Access and purchase of these materials needs to happen through the Canvas course space. See Accessing eBook and MyLab under Course Dashboard for instructions.

NOTE: There is no need to purchase the hard copy textbook. Your MyLab access includes your access to the eText. *If you feel you need a hard copy to study, that is at your own expense and can be purchased at the University Bookstore.*

eText and MyLab

The eText and MyLab materials for this product are found **in this Canvas course** – located in the eText and in the Course Home (ML Quizzes/Tests, ML Homework, StatCrunch, Tools for Success, and Support). Links to these items are also found in the modules.

Accessing the eText and MyLab Materials

To initiate access of the materials:
1. Go to any links to the eBook or to any of the MyLab materials in this course (e.g., ML Homework or Tools for Success) in Course Home, or links to these items in any of the numbered course modules.

2. You will be prompted to accept the user agreement and privacy policy, and then you will be prompted to select your access option:
   o Select "Buy Now," then select the link to purchase the text and MyLab.
3. Note that you will only have to do this the first time you access the materials.

If you are having ordering or access issues (Text, MyLab) you need to contact:

Rutgers tech support team's Office of Information Technology (OIT):
Web: https://it.rutgers.edu/help-support/
Phone: 833-OIT-HELP
E-mail: help@camden.rutgers.edu, or
help@canvas.rutgers.edu

Pearson Student Support:
https://support.pearson.com/getsupport/s/contactsupport

Unfortunately, I don't have anything to do with the ordering of or the access to materials, so please use the resources noted above.

I   COURSE GOALS AND OBJECTIVES

This course will provide students of business with additional statistical tools used in all fields for analyzing data in support of decision making. Instead of focusing on theoretical formulae, students will learn to apply these tools for analyzing and interpreting data routinely collected by all entities in order to formulate marketing strategies, business/financial plans and investment decisions. This course will provide the knowledge base, experience in the use of statistical software, and practical examples of how to select and apply appropriate statistical techniques, and to interpret and communicate results. Students will collect and analyze data on a business and present a research report.

By the end of this course, you should be able to:
1. Understand Statistical Tests and Intervals
2. Understand P-Values, t-Tests, Confidence Intervals
3. Understand Inference for Counts, Chi-Square Tests, Goodness-of-Fit Tests
4. Test Hypothesis and Analysis of Variance
5. Extrapolate Data to Make Predictions
6. Understand Residuals
7. Apply Nonparametric Statistical Methods of Data Analysis
8. Explain the utility of Simple Regression & Correlation
9. Explain the utility of Multiple Regression and Time Series Forecasting
10. Understand how Statistics used in Quality Control Processes
11. Decision Making and Risk Avoidance

II   COURSE DESIGN

This online course is designed to provide a variety of learning experiences and opportunities. Class activities will include some or all of the following: videos, class discussion, lecture, exams, quizzes, and class and group exercises. In order for you to maximize your learning experience, you will need to prepare by reading the assigned material and completing assigned. Lecture coverage of textbook material will be brief, and is intended to introduce you to the principles, theories, concepts, and techniques, rather than to substitute for your independent study of the assigned material.

For each topic covered, an outline in the form of a PowerPoint presentation will be posted on Canvas. Please note that the outlines are not sufficient for performing well on exams, you will need to read and understand the material in your text. The exams will require in-depth knowledge of the assigned material in your textbook and other readings.

III   STUDENT EVALUATION

Summary of Assessment Points and Grading Scale

Student grades for this course will be calculated as follows:

Discussion Board	10%
Homework	20%
Quizzes	20%
Midterm Exam	25%
Final Exam	25%
Total	100 pts

Grading will be based on a 100-point scale, and final grades will be determined using the following scale:

Letter Grade	Points Range	Definition	Numerical Equivalent
A	90-100	Outstanding	4.0
B+	85-89	Very Good	3.5
B	80-84	Good	3.0
C+	75-80	Satisfactory	2.5
C	70-74	Acceptable	2.0
D	60-69	Poor	1.0
F	Below 60	Failing	0.0

IV   ASSIGNMENTS

Late submissions of Homework and Quiz assignments are subject to a 10% per day penalty for Days 1 and 2. Beyond Day 2, a 0% will be given for the assignment.

Note: Midterm and Final Exams along with Discussion Assignments cannot be submitted past their due dates and will receive a 0% grade.

Discussion Board Activity (10% of grade)

There will be discussion board activities in this course. Discussions may involve any combination of prepared materials, journal articles, textbook readings, videos, or other resources each week.

Students are expected to create at least **one Discussion Thread by Day 4 (Thursday) of each week that a Discussion topic is assigned and then by Day 7 (Sunday) have responded to at least two other posted threads by other students in the class.** All postings including responses are to be substantive and further the discussion of the topic of interest.

Postings on the discussion board must reflect student's reading and comprehension of the assigned readings and/or related discussion activity. Discussion postings must reflect the ability to synthesize concepts presented through writing at a college level. **The minimum length of each post is 100 words not including references or direct quotes (references required for each posting).**

Exams (45% of grade)

There are 2 Exams in this course (Midterm-20% and Final-25%). The exams will include the material covered in the textbook, lectures, PowerPoints, and Videos. MyStatLab will be used for each of the exams. The Midterm and Final Exams will be scheduled for the full period of 2 hours and 40 minutes.

The exams will be provided via MyStatLab. Students are reminded to adhere to the university's academic integrity policy. Any violations to academic integrity policy may result in receiving a failure for the course.

Quizzes (20% of grade)

There will be 4 Quizzes during the semester. The quizzes will include the material covered in the textbook, lectures, PowerPoints, and Videos. MyStatLab will be used for each of the quizzes. Students are reminded to adhere to the university's academic integrity policy. Any violations to academic integrity policy may result in receiving a failure for the course.

Homework (25% of grade)

Homework will include the material covered in the textbook, lectures, PowerPoints, and Videos. MyLab will be used for all homework assignments. Students are reminded to adhere to the university's academic integrity policy. Any violations to academic integrity policy may result in receiving a failure for the course.

V   COURSE COMMUNICATION

All updates or changes to the syllabus and other important communications will be posted on the course website at https://onlinelearning.rutgers.edu/canvas-login. Developed materials will be made available on the website as well.

Please go to https://onlinelearning.rutgers.edu/canvas-login as soon as possible after the beginning of the semester and ensure that you are able to access the course. If you are properly registered for the course, this class should appear on your Canvas - Rutgers Online homepage after you have logged in (using your assigned username and password).

Email communication should be sent from your Rutgers University email address. You will need to check your Rutgers University email regularly. This will ensure that messages that I send to the class through the system will be forwarded to your email address.

VI   ATTENDANCE

You are required to post all assignments for the week by its due date and take an active part in the threaded discussions as scheduled. The submission of your assignments provides objective evidence of your attendance in the course. Failure to complete assignments by their due dates will count against your attendance for the course.

VII   ACADEMIC INTEGRITY

The Academic Integrity policy can be found at http://academicintegrity.rutgers.edu/academic-integrity-at-rutgers.

Students are responsible for understanding the principles of academic integrity and abiding by them in all aspects of their work at the University. Students are also encouraged to help educate fellow students about academic integrity and to bring all alleged violations of academic integrity they encounter to the attention of the appropriate authorities.

Academic Integrity means that you (the student) must:

- Properly acknowledge and cite all use of the ideas, results, or words of others,
- Properly acknowledge all contributors to a given piece of work,
- Make sure that all work submitted as your own in a course activity is your own and not from someone else
- Obtain all data or results by ethical means and report them accurately
- Treat all other students fairly with no encouragement of academic dishonesty

Adherence to these principles is necessary in order to ensure that:

- Everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments
- All student work is fairly evaluated, and no student has an inappropriate advantage over others
- The academic and ethical development of all students is fostered

- The reputation of the University for integrity is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students. Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld. Violations are taken seriously and will be handled according to University policy.

VIII   STUDENT CODE OF CONDUCT

The University's Student Code of Conduct can be found at
http://studentconduct.rutgers.edu/university-code-of-student-conduct

Violations of the Student Code of Conduct are considered serious infractions of student behavior and students who violate the code are subject to penalties relative to the level of the matter. In general, students may not disturb normal classroom procedures by distracting or disruptive behavior, this includes online as well as in-person.

The Code of Student Conduct is more than a collection of University regulations to be abided by – it seeks to promote the University's values and educate. The Code of Student Conduct encourages students to be their authentic selves as they find their place on campus, while also encouraging students to embrace inclusion through discovery, dialogue, and development as they celebrate diverse backgrounds.

The spirit of the Code of Student Conduct promotes student engagement both on and off campus, global citizenship, and leadership. It encourages students to uphold the highest tenets of trust, honesty, and integrity, understanding at all times that our actions significantly impact our personal journeys, our communities, and our larger society.

Rutgers–Camden, Rutgers–Newark, and Rutgers–New Brunswick students originate from all corners of the world and travel between many campuses and cities. As our students strive to achieve their goals, they are expected to conduct themselves in accordance with University policies and procedures, but more importantly, the values and spirit that these policies and procedures are founded upon.

Violations of the Student Code of Conduct should be reported to the Dean of Students office deanofstu-dents@camden.rutgers.edu or 856-225-6050.

If the violation is immediate and a potential threat is a concern, call the Rutgers-Camden police at 856-225-6111

Etiquette Expectations from Online/Remote Students:

The following protocols on the codes of behavior reflect professional business norms on manners, courtesy, and respect. (In general, you should treat others as you would like others to treat yourself. Be mindful that what is acceptable in a text or chatroom with

friends may not be appropriate in a classroom or in an online conversation with an instructor.)

Even though many of you are already aware of these protocols, they are explicitly stated here so that everyone is cognizant of the same protocols. These protocols should be followed by all students taking this course to help ensure the online experiences for everyone involved are pleasant. They are as follows:

- If you were to send an e-mail to the professor / tutor, please address the person appropriately such as "Dr. …." or "Mr./Ms. …." ,not 'Hey'. Note that I will address you with your first name, unless you prefer that I address you differently.
- When sending an e-mail, you can get better attention by using the following guidelines:
  - use descriptive subject lines, (I am sure you have received a lot of Spam e-mails and I have occasionally and accidentally deleted student e-mails that I thought was Spam.)
  - please be as brief as possible by going straight to the point, and if possible, limit the use of attachments

Never send offensive and insulting messages* (this is a violation of the Student Code of Conduct). If you disagree, say so and state your reasons. Social media is a very powerful tool for communication. However, it can be badly misused if it is not used correctly or professionally. For example, you may have personal and legitimate concerns with this course. However, other students, who do not have similar feelings, can be negatively influenced by your concerns. This will unnecessarily and negatively affect their overall experience of the course. Therefore, to minimize such an occurrence, please feel free to directly contact the instructor/tutor first to resolve any concerns that you may have to help ensure that everyone's online experience of this course is beneficial.

- Always guard against inciting others when it comes to content, opinions,
- etc. That is, avoid blaming or accusing others of wrongdoing.
- Do not start a volley of back-and-forth e-mails, with copies distributed to every student in the class.
- Copy the minimum number of people. That is, send e-mails to only the people you think should receive and will benefit from it.
- Treat all e-mails and postings as permanent forms of written record and do not expect that any your e-mail communications to be private, unless stated otherwise. Instead, assume that all e-mail communications are public.
- Do not publicize your own or others' personal information (such as email, phone numbers, last names, etc.)

IX   DISABILITY STATEMENT

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the

campus where you are officially enrolled, participate in an intake interview, and provide documentation: https://ods.rutgers.edu/students/documentation-guidelines.

If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form (https://webapps.rutgers.edu/student-ods/forms/registration).

Erin G. Leuthold, MS Ed
(856) 225-2717
Rutgers-Camden Disability Services:
311 North Fifth Street, Camden, NJ 08102-1405
Web page: https://ods.rutgers.edu/contact-ods/rutgers-university-camden
E-mail: disability-services@camen.rutgers.edu

IX   INCLEMENT WEATHER CLOSING HOTLINE

Since this course is an online course, inclement weather will not impact your ability to attend class. However, here is the Inclement weather website:
http://www.camden.rutgers.edu/about/operating-status

The Operating Status at Rutgers University–Camden provides operating information regarding emergency and weather alerts, class cancellations, campus closures, and more.

Students can also sign up for Emergency Text Alerts. Rutgers–Camden sends emergency text alerts to subscribed users via the Emergency Notification System. You can register your cell phone number to receive alerts in the event of a campus emergency.

Rutgers University

52:135:216:90 Applied Business Statistics
Course Calendar – Fall 2024

Due dates imply deadline of 11:59 p.m. All times are Eastern Standard.

Module	Readings	Assignments / Assessments	Due Dates

1	Chap 12
	
	Lecture, PowerPoint, Videos
		Set-Up MyLab
		
		MyLab:
		    MyLab Student Orientation
		    Chap 12: Testing Hypotheses
		
		Canvas:
		    Discussion Module 1: Student Introductions
			Sunday 9/8/24

2	Chap 13
	
	Lecture, PowerPoint, Videos
		MyLab:
		    Chap 13: More about Tests and Intervals
		
		Canvas:
		    Discussion Module 2: Statistical Testing Methods
			Sunday 9/15/24

3	Chap 14 Lecture, PowerPoint, Videos	**MyLab:** Chap 14: Comparing Two Means **Quiz 1 (Chap 12-14)** Opens Monday at 00:00am and closes Sunday at 11:59pm	**Sunday 9/22/24**

4	Chap 15
	
	Lecture, PowerPoint, Videos
		MyLab:
		    Chap 15: Inference for Counts: Chi-Square Tests
		
		Canvas:
		    Discussion Module 4: Inference for Regression
			Sunday 9/29/24

5	Chap 16 Lecture, PowerPoint, Videos	**MyLab:** Chap 16: Inference for Regression	**Sunday 10/6/24**
6	Chap 17 Lecture, PowerPoint, Videos	**MyLab:** Chap 17: Understanding Residuals **Quiz 2 (Chap 15-17)** Opens Monday at 00:00am and closes Sunday at 11:59pm	**Sunday 10/13/24**

7	Chap 18
	
	Lecture, PowerPoint, Videos
		MyLab:
		    Chap 18: Multiple Regression
		
		    Midterm (Chap 12-18) Opens Monday at 00:00am and closes Sunday at 11:59pm
			Sunday 10/20/24

8	Chap 19 Lecture, PowerPoint, Videos	**MyLab:** Chap 19: Building Multiple Regression Models	**Sunday 10/27/24**

9	Chap 20
	
	Lecture, PowerPoint, Videos
		MyLab:
		    Chap 20: Time Series Analysis
		
		Canvas:
		    Discussion Module 9: Design and Analysis
			Sunday 11/3/24

10	Chap 21
	
	Lecture, PowerPoint, Videos
		MyLab:
		    Chap 21: Introduction to Big Data and Data Mining
		
		    Quiz 3 (Chap 19-21) Opens Monday at 00:00am and closes Sunday at 11:59pm
			Sunday 11/10/24

11	Chap 22
	
	Lecture, PowerPoint, Videos
		MyLab:
		    Chap 22: Quality Control
		
		Canvas:
		    Discussion Module 11: Quality Control and Nonparametric Methods
			Sunday 11/17/24

12	Chap 23 Lecture, PowerPoint, Videos	**MyLab:** Chap 23: Nonparametric Methods	**Sunday 11/24/24**

13	Chap 24
	
	Lecture, PowerPoint, Videos
		MyLab:
		    Chap 24: Decision Making and Risk
		
		    Note: This week's assignment needs to be completed by Wednesday
			Wednesday 11/27/24

		Thanksgiving Recess **(Nov 28 – Dec 1)**	
14	Chap 25 Lecture, PowerPoint, Videos	**MyLab:** Chap 25: Analysis of Experiments and Observational Studies	**Sunday 12/8/24**

		Quiz 4 (Chap 22-25) Opens Monday at 00:00am and closes Sunday at 11:59pm	
		Reading Day(s)	**Thu/Fri 12/12/24 12/13/24**
15	Lecture, PowerPoint, Videos	**MyLab:** **Final Exam (Chap 19-25)** Opens Monday at 00:00am and closes Friday at 11:59pm *Note: This week's assignment is open from Monday through Friday*	**Mon-Fri 12/16/24- 12/20/24**