

INQ 240 Statistics & Sports Industry

Spring 2024

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Office Hours: Monday, Wednesday and Friday 10:50 am to 11:50 am; Tuesday 11:50 am to 1:00 pm
All office hours are by appointment. To make an appointment, please use the link:
<https://rreakes24.youcanbook.me>
If these hours do not work with your schedule, please call or email me to set up a Zoom Meeting appointment. I will do my very best to accommodate both of our schedules.

Text: *Elementary Statistics: Picturing the World. (7th edition)*, by Ron Larson and Betsy Farber
<https://www.pearson.com/us/higher-education/product/Elementary-Statistics-Picturing-the-World-7th-Edition-Larson-Farber/p/9780321913456>
[Online Bookstore Link](#)

Required Materials: All students will need either a hand held TI-84 graphing calculator OR a laptop which will allow you to access an online TI-84 emulator. We will discuss this option in class.

Recommended Technology: A laptop for class is not required, but very helpful!

Note: Students who have completed Stat 210 may not take this course for credit. Students must receive a C or better in this course or Math 111 to declare a major in Business Administration. You may wish to discuss grade requirements with your advisor with regards to your major.

Academic Integrity: You are expected to be familiar with the Academic Integrity Code outlined in the booklet, [Academic Integrity at Roanoke College](#).
https://www.roanoke.edu/inside/a-z_index/academic_affairs/academic_integrity

- 1) The use of any electronic device other than a calculator during a quiz or exam is strictly prohibited. Any use of such devices during a quiz or exam will be considered a breach of academic integrity. You will not be allowed to share a computer or calculator.
- 3) You are expected to do all work graded for accuracy independently. This includes tests, quizzes and written work. You are allowed to work alone, with a partner or a group on the daily independent practice problems which will only be graded for completion.

Course Objective: Students will gain an understanding of how decision making is accomplished using modern statistical techniques. Topics include descriptive statistics, graphical techniques, elementary probability, estimation, inferential statistics, linear correlation, and regression. Quantitative reasoning will also be emphasized.

Course Outcomes: By the end of this course, successful students will be able to:

- 1) use the methodologies of statistics to investigate a topic of interest and make decisions based on the results,
- 2) use the methodologies of statistics to design and carry out a simple statistical experiment,
- 3) use the methodologies of statistics to critique news stories and journal articles that include statistical information. In the critique students will recognize variability and its consequences, identify potential sources of bias and both proper and improper cause and effect inference,
- 4) articulate the importance and limitations of using data and statistical methods in decision making,
- 5) write about course topics clearly and effectively, and
- 6) interpret quantitative information related to the course topic.

Policy on expected number of hours of work per week: Per the Academic Catalog, “For each one-unit course, students are expected to complete 12 hours of work inside and outside of class each week.” Realistically, this may vary due to the strength of the background of each individual student with respect to course content.

Attendance: Class attendance is a very important aspect of a student's success in this course. The student is expected to attend every class and is accountable for any missed classes.

Grading:

Video Completion:	5%
Independent Practice Completion:	10%
Graded Practice Accuracy	15%
Written Work:	10%
Topics Mastered (Tests):	60%

Grades will be assigned using the scale below:

A	93-100	C	73-76
A-	90-92	C-	70-72
B+	87-89	D+	67-69
B	83-86	D	63-66
B-	80-82	D-	60-62
C+	77-79	F	Below 60

Testing Policy:

We will use Mastery-Based Testing rather than Points-Based Testing. Mastery-based testing is very different from what you are used to - do not hesitate to ask me questions! You will only receive credit for answers that demonstrate you completely understand (have mastered) a topic. But you will get MANY chances to display mastery throughout the semester with NO PENALTY for earlier attempts.

- The course has been summarized by 16 topics.
- Your mastery of questions on these topics is assessed through the working of problems in mastery opportunity classes and during the final exam period.
- Each problem submitted is graded as either “Mastered” or “Redo”. A grade of Mastery indicates that you have demonstrated a full understanding of the concept being tested and further work on the topic is unnecessary.
- Once you have mastered a topic, you need not attempt it again.
- There is no penalty for multiple attempts taken to achieve mastery.
- Mastery does not mean perfect! It means you understand and can demonstrate all fundamentals of the topic and are proficient at the level desired for the course.
- Your overall test grade is determined by the number of topics you have mastered illustrated in the table below:

# Mastered	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Mastery Grade	100	95	90	85	80	75	70	65	60	55	50	45	40	35	30	25

- Retrying to master the topics after the first attempt may be done any time after the first attempt either in class on mastery opportunity days or during office hours. To retry a topic during office hours, you must book an appointment during office hours. If my posted office hours do not work with your schedule, you may email me to set up a time that works for both of us.

Late Work Policies:

Video completion will be checked prior to class to ensure you have watched the video at least once! You may not get credit for watching the video after class has begun without written documentation from a college official.

Independent practice problems are uploaded to the Inquire Assignment link. This work will only be accepted by the end of class the day it is due. No late submissions will be accepted without arrangements approved prior to absence OR without written documentation from a college official. If you miss class for any reason you should submit the assignment to me the day it is due!

Graded Practice Accuracy: These problems selected will be selected (usually 1 or 2) from the independent practice problems each class and checked for accuracy and may be submitted until solved correctly. They will be accepted up to midnight the day before the final exam.

Written work needs to be submitted on the due date by 11:59 pm the day it's due! No late papers will be accepted without arrangements approved prior to absence OR without written documentation from a college official.

Written Work Preview:**“Where’s the Data” Assignment:**

You must find an article about sports you are interested in that uses data analysis to make or prove a point. In the article you must find the data set or a description of the data set used to support the authors claim and what sampling technique was used to collect the data. You must complete and submit an assignment sheet which is posted on Inquire using full sentences, correct grammar and spelling. The assignment is 10% of your written work grade.

Linear Regression Assignment:

You will find two sets of quantitative data to perform a linear regression test to determine a relationship exists using an error of your choice. The results will be used to write a conclusion discussing your results and interpret what they mean in regards to your population. Include a discussion of what this means for you and the reader in terms of the conclusion. The assignment is 10% of your written work grade.

Article Proposal Assignment:

In full sentences answer questions about your idea for your written article. The purpose of this proposal is to lead you in the right direction and minimize wasted time. The assignment is 10% of your written work grade.

Sports Article using Data Analysis Assignment:

After reading articles using data analysis to support an author’s claim, you will become the author. Your task will be to use proper techniques to collect, organize, visualize, analyze and interpret data. You will use these results to write an interesting sports article which uses your results of your statistical study to prove or disprove a claim. The assignment will represent 70% of your written work grade.

Writing Center:

Is located on the Lower Level of Fintel Library, offers tutorials focused on writing projects and oral presentations for students working in any field. Writers and presenters at all levels of competence may visit the Writing Center at any point in their process—including brainstorming, drafting, organizing, editing, or polishing presentation skills—to talk with trained peer tutors in informal, one-on-one sessions. The Writing Center is open Sunday through Thursday from 4 to 9 pm. Simply stop in, or schedule an appointment by going to www.roanoke.edu/writingcenter, where our staff members and workshops are also posted. Questions? Email writingcenter@roanoke.edu or call 375-4949.

Co-Curricular Engagement: The MCSP Department offers a series of talks (MCSP Conversation Series) that appeal to a broad range of interests related to your fields of study. You are invited to be involved with all these meetings. After attending, submit a one-page paper reflecting on the discussion through Inquire. These reflection papers earn **extra credit**, with .5% added to your course average for each attended, up to 1% total. In addition, individually you may request that other appropriate events can count. [Link to schedule.](#)

Subject Tutoring:

Subject Tutoring is a CRLA Nationally Certified Program located on the lower level of Fintel Library in room 005. Subject Tutoring offers individual appointments in 30-minute intervals for Lab Sciences, Modern Languages, Math and CPSC, Social Sciences, Business and Economics. Hours are Sunday - Thursday 4 p.m. - 9 p.m. For a list of tutorials or to make an appointment, go to www.roanoke.edu/tutoring.

Tentative Schedule and Assignments:

Use the following link for: [Course Schedule](#)

Course Topics List:

Use the following link:

[Course Topics](#)