

**Management Science and Information Systems**  
**Course Number: 29:623:340**  
**Course Title: Introduction to Business Research Methods**

## **COURSE DESCRIPTION**

This is an introductory course in business research methods. This course is designed for students in fields that emphasize quantitative methods. Probability concepts and the theory of sampling distributions are used as aids to quantitative reasoning and data analysis, along with illustrations drawn from the natural and social sciences. Topics include problems involving data quality and causal inference, graphical and numerical data summaries, statistical modeling of relations between variables, and the use of computers to manage data, evaluate models, and estimate parameters. Microsoft Excel will be used build graphs and analyze the data for the project.

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## **COURSE MATERIALS**

- Textbook: David Moore and William Notz, *Statistics: Concepts and Controversies*, 10th Edition, W.H. Freeman and Company, ISBN: 978-1-319-10902-8
- Software: participants can use their preferred software to analyze and visualize datasets. Only basic knowledge of Excel is required to complete the project. Excel, R or any other software with basic data analytics and statistical capabilities will be sufficient.
- Check Canvas ([canvas.rutgers.edu](https://canvas.rutgers.edu)) and your official Rutgers email account regularly. All the information regarding lecture notes, reading materials, assignments, and late breaking news will be posted on Canvas.

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## **LEARNING GOALS AND OBJECTIVES**

- This course is designed to help students develop skills and knowledge in the following area(s):
  - **Quantitative skills.** Students will be able to understand and apply data analytics and statistic skills

Students who complete this course will demonstrate the following:

- o Learn how to apply and interpret descriptive statistics
- o Learn how to visualize and analyze relationships between variables
- o Apply and interpret linear regression
- o Understand survey principles
- o Understand experiments
- o Use the language and concepts of probability and statistics
- o Learn basic principles of statistical inference

- o Visualize data using statistical charts in Excel
- o Conduct a project in Excel
- o Be an informed consumer of statistical information

Students develop these skills and knowledge through the following course activities and assignments:

- Lectures. Class lectures will elucidate interactively the content of the textbook. A small number of additional readings will be provided.
- Homework Assignments. Exercises will be assigned at the end of many classes to allow students to practice their skills on their own.
- Project. Students have the opportunity to apply the techniques learned in the lectures to small datasets that can be analyzed in Excel.

**Live Sessions:** Will be scheduled through Canvas.

**Feedback and response expectations:**

- Email Response Times: I will do my best to return your emails in two days.
- Graded Materials Return Times: I will strive to grade your assignments exams within one week

**Sample Student Expectations:**

In this course you will be expected to complete a number of tasks including:

- downloading and uploading documents from Canvas
- accessing documents online
- viewing online videos
- use Excel to solve some problems. The instructor will demonstrate Excel usage in class
- complete quizzes online

**Learning Management System:** Canvas

**Hardware and software requirements:**

- Microsoft Excel. Powerpoint and Tableau are optional.

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## PREREQUISITES

It is assumed that all students have completed basic statistics and are familiar with operating MS- Excel. As this course has a significant quantitative element, these materials should be well understood.

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## ACADEMIC INTEGRITY

*I do NOT tolerate cheating.* Students are responsible for understanding the RU Academic Integrity Policy (<http://academicintegrity.rutgers.edu/>)

I will strongly enforce this Policy and pursue *all* violations. On all examinations and assignments, students must sign the RU Honor Pledge, which states, “On my honor, I have neither received nor given any unauthorized assistance on this examination or assignment.” I will screen all written assignments

through *SafeAssign* or *Turnitin*, plagiarism detection services that compare the work against a large database of past work. Don't let cheating destroy your hard-earned opportunity to learn. See [business.rutgers.edu/ai](http://business.rutgers.edu/ai) for more details.

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## **ATTENDANCE AND PREPARATION POLICY**

- Expect me to attend all class sessions. I expect the same of you. If I am to be absent, I will send you notice via email and Canvas as far in advance as possible.
  - For weather emergencies, consult the campus home page. If the campus is open, class will be held on campus. If the campus is closed, class will be held virtually.
  - Expect me to arrive on time for each class session. I expect the same of you.
  - Expect me to remain for the entirety of each class session. I expect the same of you.
  - Expect me to prepare properly for each class session. I expect the same of you. Complete all background reading and assignments. You cannot learn if you are not prepared. The minimum expectation is that for each 3-hour class session, you have prepared by studying for at least twice as many hours.
  - Expect me to participate fully in each class session. I expect the same of you. Stay focused and involved. You cannot learn if you are not paying attention.
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## **CLASSROOM CONDUCT**

All students are expected to know, understand and live up to the standards of RU.

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## **EXAM DATES AND POLICIES**

Midterm Exam: in-person

Final Exam: TBD according to university policies.

During exams, the following rules apply:

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- If you have a disability that influences testing procedures, provide me an official letter from the Office of Disability Services at the start of the semester.
  - No cell phones or other electronics are allowed in the testing room.
  - You must show a valid Rutgers photo ID to enter the room and to turn in the exam.
  - Alternate seating; do not sit next to another student or in your usual seat.
  - Use the bathroom prior to the exam start; bathroom breaks, if essential, will be escorted.
  - Your exam will not be accepted unless you sign the Honor Pledge.
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## **GRADING POLICY**

Course grades are determined as follows:

- There are two graded exams in this course: Midterm Exam and Final Exam. You will receive a separate score between 0 and 100 for each of the two exams. The final grade will be a weighted average of your homework, the project, and the two exams.
- Grading distribution

- o Midterm ....25%
- o Homework ...25%
- o Final Exam ....30%
- o Project ....20%

Your final grade is not subject to negotiation. If you feel I have made an error, submit your written argument to me within one week of receiving your final grade. Clarify the precise error I made and provide all due supporting documentation. If I have made an error, I will gladly correct it. But I will adjust grades only if I have made an error. I cannot and will not adjust grades based on consequences, such as hurt pride, lost scholarships, lost tuition reimbursement, lost job opportunities, or dismissals. Do not ask me to do so. It is dishonest to attempt to influence faculty in an effort to obtain a grade that you did not earn, and it will not work.

## COURSE SCHEDULE

Week	Topic	HW Deadlines
1	Introduction, Ch 10, 11	
2	Distributions Ch11, 12	
3	Relationships Ch14, Ch15	Homework #1
4	Sampling Ch 2,3, 4	Homework #2
5	Experiments Ch 5,6	Homework #3
6	Normal Distribution,Ch 13	Homework #4
7	Midterm Exam	Midterm
8	Chance & Probability Ch 17, 18	
9	Expected Values Ch 20	Homework #5
10	Confidence Intervals Ch 21	Homework #6
11	Project Walkthrough - 1	Homework #7
12	Project Walkthrough - 2	
13	NO CLASS	
14	Hypothesis Testing Ch 22, 24	Project
15	Final Exam Preparation	
16	Final Exam	

## SUPPORT SERVICES

If you need accommodation for a *disability*, obtain a Letter of Accommodation from the Office of Disability Services. The Office of Disability Services at Rutgers, The State University of New Jersey, provides student-centered and student-inclusive programming in compliance with the Americans with Disabilities Act of 1990, the Americans with Disabilities Act Amendments of 2008, Section 504 of the Rehabilitation Act of 1973, Section 508 of the Rehabilitation Act of 1998, and the New Jersey Law Against Discrimination. More information can be found at [ods.rutgers.edu](http://ods.rutgers.edu).

[Rutgers University-New Brunswick ODS phone (848)445-6800 or email [dsoffice@echo.rutgers.edu](mailto:dsoffice@echo.rutgers.edu)]

[Rutgers University-Newark ODS phone (973)353-5375 or email [ods@newark.rutgers.edu](mailto:ods@newark.rutgers.edu)]

If you are *pregnant*, the Office of Title IX and ADA Compliance is available to assist with any concerns or potential accommodations related to pregnancy.

[Rutgers University-New Brunswick Title IX Coordinator phone (848)932-8200 or email [jackie.moran@rutgers.edu](mailto:jackie.moran@rutgers.edu)]

[Rutgers University-Newark Office of Title IX and ADA Compliance phone (973)353-1906 or email [TitleIX@newark.rutgers.edu](mailto:TitleIX@newark.rutgers.edu)]

If you seek *religious accommodations*, the Office of the Dean of Students is available to verify absences for religious observance, as needed.

[Rutgers University-New Brunswick Dean of Students phone (848)932-2300 or email [deanofstudents@echo.rutgers.edu](mailto:deanofstudents@echo.rutgers.edu)]

[Rutgers University-Newark Dean of Students phone (973)353-5063 or email [DeanofStudents@newark.rutgers.edu](mailto:DeanofStudents@newark.rutgers.edu)]

If you have experienced any form of *gender or sex-based discrimination or harassment*, including sexual assault, sexual harassment, relationship violence, or stalking, the Office for Violence Prevention and Victim Assistance provides help and support. More information can be found at <http://vpva.rutgers.edu/>.

[Rutgers University-New Brunswick incident report link: <http://studentconduct.rutgers.edu/concern/>. You may contact the Office for Violence Prevention and Victim Assistance at (848)932-1181]

[Rutgers University-Newark incident report link: [https://cm.maxient.com/reportingform.php?RutgersUniv&layout\\_id=7](https://cm.maxient.com/reportingform.php?RutgersUniv&layout_id=7) . You may also contact the Office of Title IX and ADA Compliance at (973)353-1906 or email at [TitleIX@newark.rutgers.edu](mailto:TitleIX@newark.rutgers.edu). If you wish to speak with a staff member who is confidential and does **not** have a reporting responsibility, you may contact the Office for Violence Prevention and Victim Assistance at (973)353-1918 or email [run.vpva@rutgers.edu](mailto:run.vpva@rutgers.edu)]

If students who have experienced a temporary condition or injury that is adversely affecting their ability to fully participate, you should submit a request via <https://temporaryconditions.rutgers.edu> .

If you are a military **veteran** or are on active military duty, you can obtain support through the Office of Veteran and Military Programs and Services. <http://veterans.rutgers.edu/>

If you are in need of **mental health** services, please use our readily available services.

[Rutgers University-Newark Counseling Center: <http://counseling.newark.rutgers.edu/>]

[Rutgers Counseling and Psychological Services–New Brunswick: <http://rhscaps.rutgers.edu/>]

If you are in need of **physical health** services, please use our readily available services.

[Rutgers Health Services – Newark: <http://health.newark.rutgers.edu/>]

[Rutgers Health Services – New Brunswick: <http://health.rutgers.edu/>]

If you are in need of **legal** services, please use our readily available services: <http://rusls.rutgers.edu/>

Students experiencing difficulty in courses due to **English as a second language (ESL)** should contact the Program in American Language Studies for supports.

[Rutgers–Newark: [PALS@newark.rutgers.edu](mailto:PALS@newark.rutgers.edu)]

[Rutgers–New Brunswick: [eslpals@english.rutgers.edu](mailto:eslpals@english.rutgers.edu)]

If you are in need of additional **academic assistance**, please use our readily available services.

[Rutgers University-Newark Learning Center: <http://www.ncas.rutgers.edu/rlc>]

[Rutgers University-Newark Writing Center: <http://www.ncas.rutgers.edu/writingcenter>]

[Rutgers University-New Brunswick Learning Center: <https://rlc.rutgers.edu/>]

[Optional items that many faculty include:

- Students must sign, date, and return a statement declaring that they understand the RU Academic Integrity Policy.

- Students must sign, date, and return a statement declaring that they understand this syllabus.]