Quantitative Methods – Summer 2020
830:200: H6, 4 Credits

Course Information
Dates & Time: 07/06 – 08/12 MWF 6:00pm – 9:25pm
Location: WEBEX – Link will be updated*

Instructor
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Office Hours: TBD

Disclaimer:
Everything in this syllabus is subject to change at my discretion. You will be informed if such changes are made.

Textbook:
Required:
Stats: Data and Models, 4th
Edition De Veaux, Velleman,
Bock Pearson, 2016
ISBN-13: 9780321986498

The lectures will be based on this book. The text cover all the principles of Classical Statistics from a general point of view.

Course Description

This course is an algebra-based introduction to Statistics. You already know all the math you need to succeed in the course! Nothing more than addition, subtraction, multiplication and division. The course will cover the foundational principles of Classical Statistics (probability, sampling, and regression), the most common hypothesis testing techniques (t-tests, analysis of variance, etc.) and will serve as an introduction to SPSS statistical software. We will follow the book very closely: it is very important that you keep up with the readings and lectures.

Specific Aims & Outcomes

This course has been certified as satisfying both Quantitative and Formal Reasoning Learning Outcome Goals of the SAS Core Curriculum. Specifically, students will be able to:

1. Formulate, evaluate, and communicate conclusions and inferences from quantitative information.
2. Apply effective and efficient mathematical or other formal processes to reason and to solve problems.

Grade Calculation Breakdown

Homework Problems: 30%
Midterm 30%
Final (non-cumulative): 40%

Grading

Final grades will be assigned using the following scale:

A: 90.0 -100.0%
B+: 85.0-89.99%
B: 80.0-84.99%
C+: 75-79.99%
C: 70-74.99%
D: 60.0 - 69.99%
F: 0.0 - 59.99%

Academic Integrity:

Each student in this course is expected to abide by the Rutgers University Code of Student Conduct and Academic Integrity Policy. Any work submitted by a student in this course for academic credit will be the student's own work. Penalty for violation of the University Code of Student Conduct can also be extended to include failure of the course and University disciplinary action. The risk really isn't worth it.

During examinations, you must do your own work. Talking or discussion is not permitted during the examinations, nor may you compare papers, copy from others, or collaborate in any way. You are expected to show all of your work on all computational problems. Any collaborative behavior during the examinations *will* result in failure of the exam, and may lead to failure of the course and University disciplinary action. In short: do not cheat! Do not plagiarize! Visit http://academicintegrity.rutgers.edu/resources-for-students for info and useful links.

Accommodations:

Appropriate accommodations are available for students with disabilities. In compliance with the Rutgers University policy and equal access laws, I am available to discuss appropriate academic accommodations that may be required for students with disabilities. Requests for

academic accommodations are to be made during the first week of the semester, unless for unusual circumstances, so arrangements can be made. Students are encouraged to register with the Office of Disability Services to verify eligibility for appropriate accommodations and to provide me with documentation. Please see web site of the Office of Disability Services for Students (https://ods.rutgers.edu/) for more information.

General Principle:

Please ask questions! It's the only reliable way I have of knowing whether you've understood what I'm trying to convey. Even if you can't articulate what it is you don't understand, just say "I have no idea what you're talking about," or "I'm lost," or "Help!" Chances are that if you don't get it, there are a number of your classmates who are also floundering, but I can't read your minds (I promise). Help everyone out (including me) by asking, please!

Class Schedule (tentative; subject to change)

Week	Date	Text Readings	Topics/Events	Assignment Due
1	Mon. 7/6	• Chapter 1 & 2	• Orientation - syllabus review • Data – Samples- Variables – Categorical Data	
	Wed. 7/8	• Chapter 3 & 4	• Quantitative Data – Comparing Distributions	
	Fri. 7/10	• Chapters 5a	• The Normal Model 1	HW (CH 1,2,3)
2	Mon. 7/13	• Chapter 5b &6	• The Normal Model 2	
	Wed. 7/15	• Chapters 7 & 8	• Linear Regression	HW (CH 4,5,6)
	Fri. 7/17	• Chapter 9 & 10	• Data Transformations and Randomness	HW (CH 7,8,9,10)
3	Mon. 7/20	• Chapter 11 & 12	• Surveys and Study Design	
	Wed. 7/22	• Chapter 13 & 14	• Probability	HW (CH 11,12,13,14)
	Fri. 7/24	• Chapter 1-14	• Review	
4 4	Mon. 7/27		MIDTERM	
	Wed. 7/29	• Chapter 15 & 16	• Random Variable & Probability Models	
	Fri. 7/31	• Chapter 17 & 18	• Sampling Distributions and CI for Proportions	

5	Mon. 8/3	• Chapter 19 & 20	• Testing Hypothesis: Proportions and Means	HW (Ch 15, 16)
	Wed. 8/5	• Chapter 21 & 22	• Tests Review – Comparing Groups	
	Fri. 8/7	• Chapter 23 & 24	• Paired Samples – Comparing Groups	HW (Ch 17, 18, 19, 20)
6	Mon. 8/10	• Chapter 26 & 27	• Analysis of Variance	HW (Ch 23, 24, 26, 27)
	Wed 8/12		FINAL EXAM	