

Sample Syllabus – Stat 246H – Intermediate Data Analysis

Instructor: Dr. Jackie Miller
Office: 122 Cockins Hall
Office Hours: MWF 10:30 – 11:18 a.m. (just an example)
Or by appointment
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Required Text: *Introduction to the Practice of Statistics* (5th edition), by David Moore and George McCabe

Optional: Study Guide with Selected Solutions, by Michael Fligner
Minitab—visit www.e-academy.com/minitab for information on renting or buying a copy
(Minitab is only available for PCs, not for Macs)

Website: Go to carmen.osu.edu

Course description: The second course in data analysis aims to give you the opportunity to explore several of the statistical topics that are not covered in the AP Statistics syllabus. The course will be structured in such a way that you will be very much involved in your own learning. I will serve more as a facilitator of learning than a “giver of knowledge.”

Many of you will go on to graduate school in one discipline or another. While there are some exceptions, almost all graduate and professional students need to have a solid understanding of the discipline of Statistics. Stat 246H aims to continue your journey in Statistics. Interested students who have taken Stat 246H may choose to go on to earn a minor in Statistics, which will make you even more attractive to graduate and professional schools.

Topics that will be covered:

Review of AP Statistics concepts – approximately 2 weeks
Multiple Regression – approximately 1 week
One- and Two-Way Analysis of Variance (ANOVA) – approximately 1.5 weeks
Bootstrap, Permutation Tests, and Non-Parametric Tests – approximately 2.5 weeks
Quality/Process Control and Time Series – approximately 2 weeks
Project presentations – approximately 1 week

Homework: No homework will be formally assigned for this course. Some exercises from the text will be suggested during each class period to be looked at for the next class period. We will discuss these exercises as needed during class.

Writing assignments: There will be 3-5 writing assignments throughout the quarter. These will be short assignments (1-2 pages) but will require you to explain the statistical concepts we are learning to someone who knows know statistics (e.g., a parent, a friend, a company representative). What I am looking for here is how you can convey statistical concepts and ideas in lay terms. Communication is very important in Statistics, and these assignments will help you develop this communication.

Project: Each of you will be involved in a group project that we will work on throughout the quarter. The project will consist of: developing a research question; figuring out what statistical methods will be needed to address the question; collecting suitable data; appropriate statistical analysis of the data; conclusions and recommendations based on your statistical analysis. Each group will do a presentation of its project during the last week of classes.

You will be given time in class to work with your group on your projects. Once we have completed the two weeks of review of AP Statistics concepts, you will have one day a week to work on your projects. The purpose of this time in class is to bounce ideas off of other groups and to get direct input from me.

Your grade for the project will consist of a group grade and an individual grade. You will be given the opportunity to evaluate yourself and your peers, and these evaluations will help me determine the individual portion

of the total project grade. Ideally, each group member will do her/his share of the project and will earn full marks for this individual portion of the total project grade.

Quizzes: There will be a quiz for each major topic in the course (see topics to be covered later in the syllabus). All quizzes will be taken through our Carmen website. Quizzes will consist of some objective items (e.g., true/false, multiple choice, fill-in) and one worked problem in the style of the AP Statistics examination. The objective portion of the quizzes will be graded automatically in Carmen. I will grade the worked problem myself and then post your total quiz score.

Exams: There will be one midterm exam during the quarter as well as a two-hour final exam. The final exam will be comprehensive with an emphasis on those topics covered after the midterm. Statistical tables will be provided as needed. Calculators may be used on the midterm and final exams.

Midterm: date listed

Final Exam: date listed

Exams will consist of some objective items (e.g., true/false, multiple choice, fill-in) and some worked problems in the style of the AP Statistics examination. There will also be a data analysis component to the midterm and final exams which will be given as a "take-home" data analysis portion of those exams. It is expected that each student will work independently on these take-home data analysis questions.

Notes for use on the exams: One 8.5 x 11 inch sheet of paper (both sides), with whatever facts, formulas, or explanations you find helpful, may be brought to the midterm exam. Two sheets of paper (as described for the midterm) may be brought to the final exam.

Regrade policy for the midterm: If you have a question about the grading of your midterm, you may file an appeal with me. An appeal consists of a neatly written or typed note on 8.5 x 11 paper attached to your quiz or exam that explains what I should consider. All appeals must be filed with me within one week of receiving your midterm back. Please note that when presented with a grade appeal, I do have the option to look through the entire assessment for other potential grading mistakes.

Full credit on exam problems: You need to show your justification for or work on each exam problem. Answers without work will not receive full credit.

Final Grade:

Your final course grade will be based on the following weighting of assessment components:

Quizzes	25%
Midterm	20%
Final exam	25%
Group project	15%
Writing Assignments	5%
Class participation	10%

Final course grades will be assigned based on the following grading scale:

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

Attendance and Participation: Attendance is essential if you wish to do well in this course. Class participation is encouraged and appreciated. The more participation from each of you, the more interesting the class will be.

Responsibility: The bottom line is that you are responsible for your own learning. I am here solely to facilitate your learning and understanding of the discipline of statistics. I will help as much as I can, but learning the material is ultimately up to you. This includes:

- attending class meetings or getting assignments and notes from others if you miss class;
- asking questions when you have them, either in class or out of class;
- doing the assigned reading on time and participating in class; and,
- contacting me if you are having difficulties.

Calculators: A calculator (with statistical functions) may be used for quizzes and exams. I highly recommend a TI-83 Plus, TI-84 Plus, or TI-89 calculator. No cell phone calculators will be allowed during quizzes and exams. (Note: This also applies to PDAs with calculator and/or communication functions.)

Academic Misconduct: Please help us to maintain an academic environment of mutual respect, fair treatment, and personal growth. You are expected to produce original and independent work for quizzes and exams. Although students are often encouraged to work together on homework assignments, all students must submit their own written work in their own words. Academic misconduct will not be tolerated and will be dealt with procedurally in accordance with University Rule 3335-31-02. (This policy can be found at <http://oaa.osu.edu/procedures/1.0.html>.)

Cell phones: Cell phones must be either turned off or put on vibrate during class, as cell phones ringing during class disrupt the learning process. Additionally, no cell phone calculators will be allowed on any quizzes or exams in the course. Note: This applies also to PDAs with communication capabilities.

E-mail Correspondence: In order to protect your privacy, all course e-mail correspondence must be done through a valid OSU name.nn account. If you have not activated your OSU email account, you can activate your account at <https://acctmgt.service.ohio-state.edu/cgi-bin/KRB1EntryAdd>.

Addressing Issues of Differing Abilities: All students who feel they may need accommodations based on the impact of a disability should contact the instructor privately to discuss their specific needs. Students with documented disabilities must also contact the Office of Disability Services (ODS) in 150 Pomerene Hall (phone: 292-3307) to coordinate reasonable accommodations for the course. ODS forms must be given to your instructor as early in the quarter as possible to be filled out and returned to you.