

RES-ECON 213
Intermediate Statistics for Business and Economics – Fall 2019
TuTH 10:00-11:15am, Herter Hall Room 231

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Location: 412 Machmer Hall

Prerequisite: Successful completion of Rec-Econ 212 or Stat 240 are appropriate prerequisites. Please talk to me if you are relying on any other coursework as a prerequisite.

Objectives: This is the second course in a two-course sequence. In the first course (ResEc 212) you learned to organize and summarize data, create confidence interval estimates and complete hypothesis tests for a single population. In this course you will learn how to compare different populations through hypothesis testing. You will also learn to estimate relationships among variables through regression analysis. You will develop a greater appreciation for the kinds of information presented daily in the press and the ability to use statistics to interpret and judge survey results and statistics presented in the media. Knowledge of statistics is becoming increasingly important in this information age. Statistics can be viewed as *discovery through data*.

Required Materials:

- 1. Text:** *Applied Statistics in Business & Economics*, Volume 2 (ISBN: 1260118568) by David P. Doane and Lori E. Seward, 5th edition. *This is a custom edition!* (The full textbook has been split into two volumes for our two courses.) An online tool called *Connect* comes bundled with the custom edition of the text. *Connect* is an integral part of this course, and *everyone must have it*. The cost for the bundled package is \$72.20 [directly from McGraw-Hill](#). Once you purchase Volume 2 along with *Connect* and activate your access code, you also gain access to an on-line version of the entire text.
- 2. Personal Response Transmitter (iClicker2):** This is required for use during lectures and in discussion sections. You must link your Spire ID to your *iClicker2* transmitter on the Moodle site for this course. Note, there is a [iClicker lending program](#) on campus so you can borrow one for the semester for free!
- 3. Computer Access:** It is extremely important that you have access to a personal computer and access to the Internet. Pre-lecture assignments and quizzes in this course (described shortly) are given over the Internet using *Connect*. **In addition, data sets will be provided for statistical analyses that really cannot be completed on hand calculators.**

Course Schedule: I plan to quickly review chapters 8 and 9 (“Sampling Distributions & Estimation” and “One-Sample Hypothesis Tests”), which are prerequisites to this course. We will then cover chapters 10 – 16. PDFs of Lecture slides will be posted prior to each lecture on *Moodle*. We will spend just 3 lectures on the first two review chapters. We’ll then spend 3-4 lectures on each subsequent chapter. The topics covered will include Hypothesis Testing (one and two sample), ANOVA, and Regression (simple and multiple).

Discussion Sections: Discussion sections are led by the TA and will be used to guide your application of the methods and tools covered in class to analyze data. Each week the TA will review key terms and methods and illustrate data analysis using software, Excel. We will also use discussion sections to prepare you for the coming quizzes and exams using real data sets. **NO DISCUSSION WILL BE HELD DURING THE FIRST WEEK OF COURSES.** The first discussion sections will be on September 13.

Course Requirements:

1. **Examinations:** There are 2 mid-semester examinations and a final exam. Mid-semester exams are scheduled for **Thursday, October 10th** and **Thursday, November 14th**. Mark your calendars. A final exam, required of all students, will be administered at the assigned time and place. The final exam is comprehensive.

	<i>Room</i>	<i>Date</i>	<i>Time</i>
Midterm 1	Thompson Hall 106	10/10/2019	7:00-9:00pm
Midterm 2	TBD	11/14/2019	7:00-9:00pm
Final Exam	Herter Hall 231	12/19/2019	10:30am-12:30pm

2. **In-Class Personal Responses (iClicker2):** Radio frequency transmitters will be used during each lecture to answer questions, with full credit for correct answers and half-credit for incorrect answers. Full credit is earned for participation/survey questions. **Each lecture is worth 1 point** in determining your **Personal Response** score, your percentage of the total possible points. We drop your three lowest scores; **these three drops include all absences (excused or otherwise)**. Each transmitter has a unique ID which you must link to your SPIRE ID on Moodle. **We begin using clickers on Thursday, September 12.**
3. **Discussion Sessions:** you are each registered for a discussion session on Fridays. Attendance and constructive participation in your enrolled session is required and will account for 5% of your final grade. Full credit is possible if $\geq 80\%$ attendance (with good participation) is achieved. **This includes excused AND unexcused absences.** All points for discussion session attendance and participation are at the TA's discretion.
4. **Assignments:** There will be 10-15 assignments during the semester. (I and Connect refer to them as "Homeworks.") Each homework will be posted in **Connect**. I will do my best to announce when a new homework is available and when it is due, but it is your responsibility to observe when a homework opens and when it closes. Closing times do vary by day of week and hour. So, be vigilant regarding closing times. Questions are based on material in assigned readings. Your **Connect Homeworks** grade will be based on the points that you earn for answering questions correctly. Homeworks are worth 10% of your final grade. The link to Connect for this course is: <https://connect.mheducation.com/class/re213f19> and is also available on Moodle.
5. **Quizzes:** There will be on-line quizzes in **Connect** posted throughout the semester (probably ~6). Each quiz will remain active for at least 5 days. **Quizzes are timed – you will typically have 1-3 hours. Once you click on a quiz, you cannot stop the clock!** A quiz will consist of a number of questions – many will be selected from the homework questions. You can make two attempts at each quiz. Additionally, we will drop your lowest quiz score in calculating your final quiz average.

Course scores are calculated based on the following weightings:

	<i>Weights</i>
Personal Response – iClicker2	5%
Discussion Session Attendance & Participation	5%
Connect Homeworks	5%
Connect Quizzes	10%
Lowest Midterm Exam Score	15%
Highest Midterm Exam Score	25%
Final Exam	35%

Final course grades will be curved, but the following course scores will earn these grades as a minimum.

Percentage	92	89	86	83	79	76	73	69	65	58
Grade	A	A-	B+	B	B-	C+	C	C-	D+	D

Course Policies:

- 1. Attendance:** Grades depend on in-lecture participation (via *iClicker2* responses) and attendance & constructive participation in discussion sessions. **You are responsible for all material covered in lectures and discussions.** We will cover a large amount of material. If your plan is to "only study before the exam," you'll be in trouble. Statistics requires regular practice, and more practice. To effectively use the statistical concepts taught in the course you need a steady exposure to readings, activities and problems. The course is set up with exercises that lead you through small amounts of material for each concept. Stay on schedule. ***Please!! Don't Fall Behind.***
- 2. Academic Honesty:** I hate cheating and I follow closely the University Academic Honesty Policy. You are expected to be familiar with the University policy and the commonly accepted standards of academic integrity. Here is the University articulated Academic Honesty Policy:

Since the integrity of the academic enterprise of any institution of higher education requires honesty in scholarship and research, academic honesty is required of all students at the University of Massachusetts Amherst. Academic dishonesty is prohibited in all programs of the University. Academic dishonesty includes but is not limited to: cheating, fabrication, plagiarism, and facilitating dishonesty. Appropriate sanctions may be imposed on any student who has committed an act of academic dishonesty. Instructors should take reasonable steps to address academic misconduct. Any person who has reason to believe that a student has committed academic dishonesty should bring such information to the attention of the appropriate course instructor as soon as possible. Instances of academic dishonesty not related to a specific course should be brought to the attention of the appropriate department Head or Chair. Since students are expected to be familiar with this policy and the commonly accepted standards of academic integrity, ignorance of such standards is not normally sufficient evidence of lack of intent (http://www.umass.edu/dean_students/codeofconduct/acadhonesty/).
- 3. Accommodation:** The University of Massachusetts Amherst is committed to providing an equal educational opportunity for all students. If you have a documented physical, psychological, or learning disability on file with Disability Services (DS), you may be eligible for reasonable academic accommodations to help you succeed in this course. If you have a documented disability that requires an accommodation, please notify me within the first two weeks of the semester so that we may make appropriate arrangements. If you have other questions about special accommodations, please don't hesitate to talk with me at any time.

Finally, I hope you enjoy the class. Stats is fun!