

Quantitative Methods in Applied Economics

Res Econ 313-01 (48651)

Spring 2020

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<ol style="list-style-type: none">1. Allow a reasonable amount of time for the instructor or TA to reply to your emails. That is, 24 hours for weekdays and 48 hours for weekends.2. Please use your UMass email @umass.edu. Emails concerning this class will be sent to your UMass address, please check regularly.	

Class Time: Tuesday & Thursday 10:00AM - 11:15AM

Classroom: Holdsworth Hall, Room 203

Course Credits: 3 units

Course Website: Moodle (<https://moodle.umass.edu>). I will post class slides, quizzes, grades, announcements, etc. in Moodle. It is important that you check the website frequently.

Textbook (Required): Howard, Ronald A. and Ali E. Abbas. 2016. Foundations of Decision Analysis. Pearson: Boston.

Prerequisites: You must have completed Res-Econ 211 or 212 or Statistics 240 to enroll in this course. I also strongly recommend that you have taken Res-Econ 202 either before this course or concurrently with it.

Course Objectives: No matter what type of job you get when you leave the ResEc family, you will need to be able to make good decisions using numbers. Some of you will get jobs performing analysis, while some of you will need to judge the credibility of the analysis done by others. The goal of this class is to introduce you to decision analysis.

Instruction Methods: This is an upper-level class, and it will require more responsibility from you than many of your lower level classes. We have a lot of material to cover, and I cannot discuss everything in class. Rather, you are responsible for reading the text and working with the material on your own. **I will assume you already read the content to be covered in each class, and will only highlight the more complicated aspects of the materials during lecture.**

Important Dates:

Feb 25	First Midterm (10:00am-11:15am, in class)
Apr 02	Second Midterm (10:00am-11:15am, in class)
Apr 28	Third Midterm (10:00am-11:15am, in class)
May 01	Optional Final Exam (10:30am -12:30pm)

Evaluation: Grading will be based on quizzes, problem sets, midterms and final exams as described below (the weight towards final score is noted in the brackets):

- **Quizzes [10%]:** 10 quizzes, one quiz *in Moodle* each week. A quiz typically becomes online each Monday and closes the next Tuesday. You will be allowed 3 attempts for each quiz, and the highest score of all will be your score for that quiz. The 2 quizzes with the lowest scores will be dropped from the calculation of your final grades.
- **Problem Sets [30%]:** 8 assigned problem sets. A problem set is typically due one week after it's assigned, and needs to be submitted *in class*. Email submissions will not be accepted. The 2 problem sets with the lowest scores will be dropped from the calculation of your final grades.
- **Midterm Exams [60%]:** 3 midterm exams, each accounts for 20% of the final grade. Midterm exams are not comprehensive, but the material does build on itself so it is important to understand all the concepts covered in classes.
- **Final Exam[Optional]:** The in-class, comprehensive final exam is optional and serves as a make-up exam and replaces one of the lowest midterm exams that it is better than.
For example: if your scores in the midterms are 80, 80, and 92, then if you scored 90 in the final exam, your new scores are ~~80~~ 90, 80, 92.
- **Extra credits [$\leq 7\%$]:** In-class pop quizzes, class participation, etc.

Weekly Quizzes (best 8/10)	Problem Sets (best 6/8)	Midterms	Final Exam (Optional)
10%	30%	60%	Depends

Exam Policies: Please check the exam dates and keep in mind the deadlines, so that you can plan ahead to avoid any conflicts. **No make-up exams will be granted (the final exam is the ONLY opportunity you have to make up for missed midterms).** Exceptions will only be made when the student has the university-approved reasons for not taking the exams as scheduled and provides all the written documents under such circumstances. If these conditions apply, please notify the instructor with reasons and proofs **at least one week before the exam.**

Exams are closed book but you may have one 3"x5" notecard (except for the final exam). You will need a non-graphing calculator for all exams. You may not share calculators during exams. You cannot use your cellphone during exams.

Evaluation Policies: No late assignments or quizzes will be accepted. A letter grade of the following: A, A-, B+, B, B-, C+, C, C-, D and F, will be assigned to you on the basis of your cumulative score. The table below provides the lower cutoff scores for each grade.

F	D	D+	C-	C	C+	B-	B	B+	A-	A
<60	60	63	67	70	73	77	80	83	87	90

Attendance Policies: Regular attendance is expected. There will be unannounced pop-quizzes or exercises in class *at any time* during a class session. If you arrive late or leave early, you might miss them. There will be no make-ups, even if you have a valid reason for missing (or being late for, or leaving early from) the class. The quizzes are opportunities for you to earn extra credits. While I understand that you may need to miss a class, notifying me ahead of time will not impact this policy in any way.

Office Hour Policies: Please *email* the instructor to set up office visits during regular work days and hours. The TA will hold office hours regularly as listed at the beginning section of the syllabus. Please check your emails or the Moodle announcements to keep updated on changes of date, time or locations of TA's office hours. Please come prepared to the office hours with specific questions. Please do not come to the office hours to do your quiz or homework.

Classroom Decorum: Please show respect towards me and your fellow students, and let's work together to have a classroom that is conducive to learning by following the following rules:

1. TURN OFF YOUR CELL PHONE! If you are on call for work, please let me know in advance and put your phone on silent. No texting during class – it is not as quiet as you think.
2. You are welcome to use computers to take notes. However, if you are caught doing other stuff during class time, then you will be asked to turn off your computer.
3. No negative language, please (no racist, sexist, homophobic remarks, or in other ways that are insensitive to your fellow classmates).
4. Show up on time, and don't leave early. Wait for the class to be formally dismissed before you start to pack up your things or get up to leave.
5. Avoid other unnecessary distractions: private conversations, reading newspapers, working on assignments for other classes, eating, sleeping, etc.
6. If you are having trouble with something, please email or come see me.
7. When in class, participate and have FUN! Economics is an awesome field, and we are going to be learning some very powerful tools this semester.

Disability Statement: The University of Massachusetts Amherst is committed to making reasonable, effective and appropriate accommodations to meet the needs of students with disabilities and help create a barrier-free campus. If you are in need of accommodation for a documented disability, register with Disability Services to have an accommodation letter sent to your faculty. It is your responsibility to initiate these services and to communicate with faculty ahead of time to manage accommodations in a timely manner. For more information, consult the Disability Services website at <http://www.umass.edu/disability/>.

Academic Honesty Policy Statement: 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. The procedures outlined below are intended to provide an efficient and orderly process by which action may be taken if it appears that academic dishonesty has occurred and by which students may appeal such actions. 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.

For more information about what constitutes academic dishonesty, please see the Dean of Students' website: http://umass.edu/dean_students/codeofconduct/acadhonesty/.

Course Outline:

The following is a tentative outline and changes may be made throughout the semester.

Week	Date	Chap.	Details	Problem Sets (PS)
1	Tue 01/21	1-4	Syllabus and Intro Chapters	
	Thu 01/23	5	Possibilities	PS 1 Assigned
2	Tue 01/28	6	Uncertainty 1	
	Thu 01/30	6	Uncertainty 2	PS1 Due, PS 2 Assigned
3	Tue 02/04	7	Relevance 1	
	Thu 02/06	7	Relevance 2	PS 2 Due, PS 3 Assigned
4	Tue 02/11	...	Catch up or Review	
	Thu 02/13	8	Rules of Actionable Thought 1	PS 3 Due, PS 4 Assigned
5	<i>Tue 02/18</i>	<i>Monday schedule to be followed</i>		
	Thu 02/20	8	Rules of Actionable Thought 2	
6	Tue 02/25	...	Exam 1 (Chap. 1-7)	
	Thu 02/27	9	The Party Problem	PS 4 Due
7	Tue 03/03	10	Using a Value Measure 1	PS 5 Assigned
	Thu 03/05	10	Using a Value Measure 2	
8	Tue 03/10	11	Risk 1	PS 5 Due, PS 6 Assigned
	Thu 03/12	11	Risk 2	
<i>03/16 – 03/20 Spring Break</i>				
9	Tue 03/24	11	Risk 3	PS 6 Due
	Thu 03/26	...	Catch up or Review	
10	Tue 03/31	33	Making Risky Decisions	
	Thu 04/02	...	Exam 2 (Chap. 8, 9, 10, 11)	
11	Tue 04/07	13	Information Gathering 1	PS 7 Assigned
	Thu 04/09	13	Information Gathering 2	
12	Tue 04/14	14	Decision Diagrams	PS 7 Due, PS 8 Assigned
	Thu 04/16	15	Encoding Probabilities	
13	Tue 04/21	16, 17	Assessment & Framing	PS 8 Due
	Thu 04/23	...	Catch up or Review	
14	Tue 04/28	...	Exam 3 (Chap. 33 13 -17)	
	Fri 05/01		Comprehensive Final Exam (Optional, 10:30AM-12:30PM)	