



University of Massachusetts Amherst
Department of Resource Economics

Course ID: Res-Econ 313 FALL 2019 (SEC 01)
Course Title: Quantitative Methods in Applied Economics
Meetings: TuThu 1-2:15pm 09/03/2019 - 12/11/2019

Instructor: **Dr. Miah Tran**
Office Location: Stockbridge Hall 217C
Office Hours: TuThu 10-11am and 2:30-3pm and by appointment
Phone: (413) 545-5723

Teaching Assistant: **Taehyun Kim**

Need help?

- For questions related to class lectures, homework, or exams, go to **Help Desk for ResEcon 313** section on **Moodle**. You also can go to see the teaching assistant or the instructor during office hours (check Moodle).
- For personal questions, email: resecon313@gmail.com

COURSE WEB PAGE Moodle (<https://moodle.umass.edu/>)

I will post learning materials, grades, etc. in Moodle. It is **important** that you check the website frequently.

CLASS INFORMATION

Course ID: ResEc 313-01
Classroom: Holdsworth Hall Room 305
Class meetings: TuThu 1:00-2:15pm

*You **must** have completed RES-ECON 211 or 212 or STASTIC 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 purpose and objectives

Decision-making is never simple especially when stakeholders, whether they are your family members, your bosses, or your dispositions about certain social issues, are involved. Fear of rejections, failures, etc. further complicates such process. The objective of this course is to clarify decision-making concepts and provide rules for making high quality decisions under such uncertainty. Achieving the clarity of actions is emphasized as decisions become more complex. Qualitative and graphic tools such as probability assignments, probability trees, decision trees, and relevance diagrams are explored and employed to assist the decision process throughout the course. Students will seek to answer these particular questions:

1. Will good decisions mean good outcomes? What are the elements of high-quality decisions?
2. What are the rules of actional thoughts?
3. How to find the value of perfect/imperfect information? How much would it worth?
4. What are the principles of information gathering?
5. What are the biases or distortions in the assessment process?

The course is designed to help students develop their analytical skills and confidently create their own approaches to each decision situation.

Required Materials

- **Textbook:** Howard, Ronald A. and Ali E. Abbas. 2016. *Foundations of Decision Analysis*. Pearson: Boston.
- **iClicker2:** **Always bring your iClicker2 to class!** You must register your iClicker2 if you haven't done so. Registration instructions for student iClicker2 can be found at <https://www.it.umass.edu/support/ars/register-your-iclicker-remote-moodle>

Useful news links:

- *The Wall Street Journal*: <http://www.wsj.com/>
- *New England Public Radio (NPR news)*: <http://www.npr.org/sections/news/>
- *The Economist*: <http://www.economist.com/>

***Reading the materials before class is a MUST.** We will dedicate most of class time to discussing the most important concepts of that chapter, exploring real-life examples, or working on the problem sets. It also means I won't go through all the PowerPoint slides which I assume you already read before the class.

GRADE POLICIES

Quizzes (best 8/10): 20%	Problem Sets (best 6/8): 25%	iClicker/ TBL Questions: 10%	Midterms (3-15% each): 45%	Final Exam (optional/ to replace one of the midterms if taken): 15%	Total: 100%	MINIMUM GRADE CUTOFFS			
						A 90%	C+ 73%		
						A- 87%	C 70%		
						B+ 83%	C- 67%		
						B 80%	D+ 63%		
						B- 77%	D 60%		
							F <60%		
CHEATING DURING EXAMS WILL RESULT IN AN "F".									

Grading Detail

1. Weekly Quizzes

There will be quizzes in Moodle each week after lecture (10 total). Your lowest 2 scores will be dropped.

2. Problem Sets

There will be 8 assigned problem sets. Your lowest 2 scores will be dropped. Students are expected to work their homework independently. **Offering and accepting solutions from others** is an act of plagiarism, which is a serious offense and all involved parties will be penalized according to the Academic Honesty Policy.

3. iClicker/TBL Questions

- The iClickers2 is an in-class communication system which uses radio frequency to allow students to send answers in response to questions that I will pose during class. While I encourage active learning in classroom by giving you 90% of the points for every iClicker question, **the remaining 10% needs to be earned by answering the question correctly.** Another benefit of answering iClicker questions is that some iClicker questions may show up in your future exams!
NOTE! You are responsible for your iClicker2's responsiveness. When you are not sure if your answers are recorded, take a picture of the questions as evidence for your participation in that class. You will get your participation scores back.
- Decisions you make in every corner of life are very often affected by other people who, in this class, are called stakeholders. Team-based Learning (TBL) activities are designed to apply your learning to a more practical setting. You will learn (1) how a team member might help you reach a better decision or refrain you from doing so, (2) how you influence their decisions (yes, you do!) and (3) thus figure out how to make a decision effectively when there are contributing ideas you can or can't ignore (imagine your teammate is your boss!). You will work in a team of three in these exercises and, of course, have to be present in class to earn credits.

4. Exams

We have 3 midterm exams and 1 (optional) final exam. **Midterm exams are not comprehensive**, but the material does build on itself so it is important to understand all the concepts covered in classes. **The final exam is comprehensive but optional.** If you didn't do well in or missed one of the three midterms, this is your only chance to make up.

Exam Policies

- Exams are closed book but you may have one 3x5 notecard (except for the final exam). You will need a non-graphing calculator for all exams. You may not share calculators.
- No electronic devices (cell phones, etc.) will be allowed during exams. If such devices are detected as being operational during an exam, it will be grounds for failure of the course.
- **Make-up** examinations will be scheduled for those students presenting a valid excuse for missing the examination (as outlined in "**Academic Regulations**" <https://www.umass.edu/registrar/sites/default/files/academicregs.pdf>). Students will be able to sign up for make-up exams by emailing resecon313@gmail.com **at least one week before** the scheduled exam date. You will also need either a medical note or signed note or email from Dr. Tran to be able to take a make-up exam (you will need to present the note/email to the TA at the make-up exam). Doctor notes have to clearly specify *which date and how many days* you are allowed to take off.
- Students requesting a make-up exam after the day of the exam will be subject to a 20% grade penalty.
- **To ensure your grade to show up correctly and on time on Spire, please report any conflict in scores within 48 hours after your final grade is posted.**
- Students with disabilities who need extra time to complete the exams should contact the Disability Services and take their exams at disability services.
- **Schedule conflicts** must be presented and documented at least 1 week **prior to** an exam. Conflicts of final exams must be verified by the Registrar's Office (i.e. SPIRE Exam schedule).

CLASSROOM DECORUM

Students are expected to assist in maintaining a classroom environment that is conducive to learning. In order to assure that all students have the opportunity to gain from time spent in class, I propose certain basic standards of classroom respect be adhered to. Respect does not eliminate appropriate humor, enjoyment, or other indications of a comfortable and pleasant classroom community. However, there is an expectation that all participants in this course will:

- Display respect for all members of the classroom community: your instructor, TAs, your teammates, and fellow students.
- Attend and participate in lectures, group discussions, and other classroom activities.
- Avoid unnecessary disruptions during class such as private conversations, reading newspapers, speaking on cell phones, using a laptop for something other than current classroom work, arriving late or leaving early, eating, drinking, and sleeping during class.
- **Please wait for the class to be formally dismissed before you start to pack up your things or get up to leave.**
- Avoid negative language that is considered racist, sexist, or homophobic or in other ways may exclude members of our campus and classroom community.

Accommodation Statement

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.

Academic Honesty 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**. Be aware that **offering and accepting solutions from others, distributing or using old homework or exams from the classes** is an act of plagiarism, which is a serious offense and all involved parties will be penalized according to the Academic Honesty Policy. 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/).

COURSE OUTLINE

Course Schedule ~ Any changes will be announced in class and over Moodle.

Class Meeting	Date	Chapter	Details	Assignments	Due
Class 1	9/3	1-4	Syllabus and Intro Chapters	Quiz 1	<i>Class 3</i>
Class 2	9/5	5	Possibilities	PS 1	<i>Class 4</i>
Class 3	9/10	6	Uncertainty 1	Quiz 2	<i>Class 5</i>
Class 4	9/12	6	Uncertainty 2	PS 2	<i>Class 6</i>
Class 5	9/17	7	Relevance 1	Quiz 3	<i>Class 7</i>
Class 6	9/19	7	Relevance 2	PS 3	<i>Class 8</i>
Class 7	9/24	8	Rules of Actional Thought 1	Quiz 4	<i>Class 9</i>
Class 8	9/26	8	Rules of Actional Thought 2	PS 4	<i>Class 10</i>
Class 9	10/1	9	The Party Problem		
Class 10	10/3		Review 1		
Class 11	10/8		EXAM 1 (Chapter 1-9)	Quiz 5	<i>Class 13</i>
Class 12	10/10	10	Using a Value Measure 1		
Class 13	10/17	10	Using a Value Measure 2	PS 5	<i>Class 15</i>
Class 14	10/22	10	Using a Value Measure 3	Quiz 6	<i>Class 16</i>
Class 15	10/24	11	Risk 1	PS 6	<i>Class 17</i>
Class 16	10/29	11	Risk 2	Quiz 7	<i>Class 18</i>
Class 17	10/31	33	Making Risky Decisions		
Class 18	11/5		Review 2		
Class 19	11/7		EXAM 2 (CHAPTERS 10, 11, 33)	Quiz 8	<i>Class 21</i>
Class 20	11/12	13	Information Gathering 1		
Class 21	11/14	13	Information Gathering 2	Quiz 9	<i>Class 22</i>
Class 22	11/19	14	Decision Diagrams	PS 7	<i>Class 23</i>
Class 23	11/21	15	Encoding Probabilities	Quiz 10	<i>Class 24</i>
Class 24	12/3	16, 17	Assessment & Framing	PS 8	<i>Class 25</i>
Class 25	12/5		Review 3		
Class 26	12/10		Exam 3 (Chapters 13-17)		
Final Exam	TBA		<i>Optional Final Exam: Comprehensive</i>		