PSAA 636: Game Theory as Quantitative Methods
Spring 2014
Mondays: 1:30pm – 4:20pm
Allen 1063

Instructor: Gina Yannitell Reinhardt
Office: 1096 Allen Building
Office Hours: Mondays, 10:00-11:00am, Tuesdays, 10:30-11:30am, and by appointment
Email: gyannirein@tamu.edu
Ecampus Course Homepage: http://ecampus.tamu.edu/

TA:
Email:
Office Hours and Tutorials: days, Allen

Required Materials:

- Dixit, Avinash K., David H. Reiley Jr, and Susan Skeath. *Games of Strategy*. 2009. Third Edition. New York: Norton.
- Additional readings will be made available at PSEL, on the PSEL web site, or on our WebCT vista course page.
- Calculator

Course Description:
This is the second semester in a graduate course sequence on quantitative social science research methods. It is designed to help you: 1) understand the influences and constraints on decision-makers; 2) improve your ability to characterize and predict decisions; 3) assess the validity of information presented to you, and 4) analyze situations of relevance to making decisions as a public manager. This will be a course filled with new and interesting information.

The majority of the course will be devoted to analyzing decision-making through Game Theory and Social Choice Theory. The goal is to develop skill for analyzing the logic of political and strategic interactions. We will use examples from economics, politics, and public administration. We will rely heavily on the Dixit, Reiley, & Skeath book, and endeavor to use mathematical modeling to understand decisions and how they're made. As a public servant the skills you learn in this course will enrich your career as a decision-maker, whether that be in the public, non-profit, or private sector.

I will not have time to cover all textbook materials in class, and my lectures will cover items that are not in your books. For this reason, a well-rounded approach to studying and reviewing material (readings, notes, homework assignments) is optimal.

NEO Account:
You must have a NEO email account in order to log on to the WebCT Vista system, and to receive class announcements and emails. You are responsible for making sure that your neo account is current and working. If you do not have one, you may obtain one at: http://neo.tamu.edu.

Course Components:

5% Attendance and *Active* Participation
You *must* attend class having completed all assigned readings. This is the only way you will know which questions you need to ask and where you need help in the material. I encourage you to not only complete the readings, but to work through the example problems in the text, especially if you are having difficulties understanding the material. You should also review all your notes from the previous week of classes. Occasionally, you will be asked to prepare material for discussion during class.

40% Homework Assignments
You will be given a homework assignment almost every week. You must complete the homework assignment for a given week and turn it in *the following week*, at the beginning of class. Each assignment will be made available to you no later than Friday in the week of the material covered, and will be labeled with the name of the week of class. For example, your homework assignment for Week 4 will be called "Homework, Week 4," and will be available on WebCT no later than Friday, February 11th. This homework assignment is due at the beginning of class on Tuesday afternoon of Week 5, February 15th.

40% Exams (20%, 20%)
There will be two exams over the course of the semester. The first will be taken in class. The second will be take-home.

15% Modeling Assignments
You will receive instruction on how to complete your modeling assignment(s) mid-way through the semester. Your task will involve modeling two real-world situations.

Grading:
The standard Bush School scale will apply:

90%-100%	A	Extraordinary, excellent work and mastery of concept
80%-90%	B	Good work and solid command of concept
70%-80%	C	Adequate work and sufficient understanding of concept
60%-70%	D	Poor work, little understanding of concept
0%-60%	F	Lack of work, no understanding of concept

Challenging a Grade:
Each homework assignment will have an answer key posted on WebCT after grading is complete, including the amount of points possible for each component of the homework. Should you have a dispute regarding the way your homework or exam is graded, *look at the answer key first.* Should you still feel your complaint is justified, you must submit a ***typewritten statement*** explaining why you believe your grade should be changed, attached to the assignment in question. Absolutely no grade challenges will be entertained in person unless a written challenge has been submitted beforehand. **Please note** that your entire assignment/exam is subject to being re-graded, should you choose to challenge your grade.

Extra Credit:
There is no extra credit for this course.

Late work policy:
Late homework assignments will not be accepted. Early homework assignments will always be accepted. If you find yourself in a situation where you cannot make it to class and cannot give your homework to a colleague to turn in for you, you may email the homework to me, along with an explanation for why you are not in class. Otherwise, you are expected to attend class and turn it in yourself.

As the last exam is a take-home exam, it is due at 11:00am on Tuesday, 3 May 2011. You will need to give me an electronic copy and a hard copy. If you turn in your exam on May 3rd at 11:01am or later, you will be penalized 5 percentage points. From then on, until you turn in your exam, every time the clock strikes midnight, you will be penalized 5 more percentage points.

Honor Code:
"An Aggie does not lie, cheat, steal, nor tolerate those who do."

A grade of zero will be given to anyone who cheats on any exam or homework assignment, or who commits plagiarism. Plagiarism is commonly defined as passing off as one's own the ideas, words, writings, music, graphs, charts, datasets, etc., that were originally created by another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you have the permission of the original author. Plagiarism is cheating. It is a violation of personal and academic integrity, and it will not be tolerated. If you have any doubt that you might be committing, or about to commit, an act of plagiarism, stop and consult me or another faculty member first.

It is impossible to stress how seriously I take the Honor Code. If you are found to be in violation of the honor code, you will be sent through the proper Bush School and TAMU channels, you will likely fail this course, and you may be expelled. Thoughts to keep in mind:

- Preparing for lectures with fellow students and working example problems together is permissible and encouraged.
- Homework problems should be submitted individually *and in writing*, even if the preparation to do those problems takes place in groups. Each assignment should be written/typed in your own hand, in your own words. Your grade rests entirely on your own work.
- If you choose to work on your homework in groups, it is understandable that the mathematical portions of your assignments (equations, formulae) may appear similar. When it comes to written portions of work (sentences, paragraphs, descriptions, definitions), these portions must be written in your own words. A word-by-word duplicate of another person's solution is considered cheating.
- You are encouraged to use discussion streams (on WebCT) with each other to help each other work through confusion.

If you have any questions about Honor Council Rules and Procedures, you may find more information at http://www.tamu.edu/aggiehonor.

Students with Disabilities:
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statue that provides comprehensive civil rights protection for person with disabilities. Among other things, this legislation requires that all students with disabilities e guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe that you have a disability requiring accommodation, please contact the Department of Student Life, Services for Students with Disabilities, in Cain Hall or at 845-1637.

Course Schedule and Assignments:

Week #	Topic	Reading	Assignment	Notes
Week 1 (1/18)	Introduction, Game theory and social choice theory as tools of decision-making and policy analysis		No Homework!	
Week 2 (1/25)	Formal representation of a social interaction; extensive form; SPE	DRS: Ch 1-2, Ch 3 sections 1-3	Homework, Week 2	
Week 3 (2/1)	Strategic form, Nash Equilibrium	DRS: Ch 3, Ch 4	Homework, Week 3	
Week 4 (2/8)	Preferences, utility, collective decisions	DRS: Ch 5, section 2	Homework, Week 4	
Week 5 (2/15)	Strategy and Voting	DRS: Ch 16	Homework, Week 5	
Week 6 (2/22)	More on simultaneous moves and Nash	DRS: Ch 5 in entirety **(VERY tough!!)**	Homework, Week 6	
Week 7 (3/1)	Heavy, thorough exam review	Get ready: DRS: Ch 1-8	Homework, Week 7	
Week 8 (3/8)	**Exam 1**	Weeks 1-7	First Model Due Week 10!!	
Week 9 (3/15)	SPRING BREAK!	*Have fun!*		No class this week
Week 10 (3/22)	Mixed Strategies, Refinements of the Nash Concept	DRS: Ch 7-8	Homework, Week 10	
Week 11 (3/29)	Prisoners' Dilemma and Collective Action Problem, PV, Discounting	DRS: Ch 11-12	Homework, Week 11	
Week 12 (4/5)	Evolutionary Games	DRS: Ch 13	Homework, Week 12	
Week 13 (4/12)	Brinkmanship	DRS: Ch 15	Homework, Week 13	
Week 14 (4/19)	Uncertainty and Information	DRS: Ch 9	Homework, Week 14	
Week 15 (4/26)	Topic of Choice; Review and Wrap-up	DRS: TBA		**Take Home Exam Due 11am, Tuesday, 3 May**