

ECON 412: Game Theory and Economics of Institutions

Course Information

Term: Spring 2021
Course: [ECON 412-002](#)
Class time: Tuesday 7:20 PM to 10:00 PM
Location: Planetary Hall 127

Contact

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Course Objectives

When individuals make decisions, they take into account not only their actions, but the actions of others and their effects. Game theory uses the fundamental assumptions of economics to form a systematic study of interdependent choices and strategic decisions. It is widely used in the field of economics and is becoming increasingly popular in other fields, such as political science, sociology, psychology, and biology. The objective of this course is for students to develop a deeper understanding of games and why their emerging outcomes occur. In doing so, students will cultivate ideas and principles which can be deployed when analyzing the strategic decisions of individuals and the complex interactions of these strategies.

While learning the fundamentals of game theory, this course will additionally take a deep dive into the economics of institutions. Under some institutions, incentives are structured in a way that individual's entrepreneurial actions produce wealth as they productively cooperate with others. In others, their actions lead to unproductive and sometimes destructive outcomes, potentially destroying more wealth than creating. We will investigate how institutional structures of human behavior can channel rivalrous energies into socially beneficial or socially destructive activities, focusing especially on institutions which effectively enforce contracts between individuals, allowing them to reap the gains from specialization and trade.

Texts

Required

[Games of Strategy, 5th Edition](#)

by Avinash K Dixit, Susan Skeath, and David McAdams

[Institutions, Institutional Change and Economic Performance](#)

by Douglass C. North

Recommended

[Theory of Games and Economic Behavior](#)

by John von Neumann and Oskar Morgenstern

[Strategy of Conflict](#)

by Thomas C. Schelling

[Governing the Commons: The Evolution of Institutions for Collective Action](#)

by Elinor Ostrom

Why Nations Fail: The Origins of Power, Prosperity, and Poverty

by Daron Acemoglu and James A. Robinson

WTF?! An Economic Tour of the Weird

by Peter T. Leeson

Prerequisites


The only prerequisite for this class is having successfully completed ECON 306: Intermediate Microeconomics. As a 400 level economics course, a familiarity with concepts from principles and intermediate economics courses is expected. *Universal Economics* by Armen Alchian and William Allen is a great reference for reviewing microeconomic concepts. Econometrics, although not a necessary prerequisite, will be helpful for interpreting results in some of the papers covered in this class.

Grading and Coursework

Your grade will be comprised of quizzes, reading responses, homework, participation, a midterm, a presentation, and a final, distributed as shown in the table.

Category	Percentage
Quizzes	10%
Reading Responses	10%
Homework	15%
Participation	10%
Midterm	15%
Presentation	15%
Final Exam	25%

- **Quizzes:** Quizzes will be taken at the beginning of each class and will be on the assigned reading due that day. The assigned readings are denoted with a ★ in the [Course Schedule](#). Your lowest quiz score will be dropped and not counted in your final grade. Quizzes cannot be made up, but can be exempted from if you have an excuse from the school or health office.
- **Reading Responses:** Reading responses are due at 11:59 PM on the day **prior** to class. This means that you will be emailing me your reading responses on Monday nights. Responses should address insights or questions you have about the assigned readings from that week. Responses should be substantive as determined by you and **should not** just be summaries of the readings. You should write a response for each of the assigned readings excluding chapters from *Games of Strategy*.
- **Homework:** Homework will be turned in on Blackboard and is due on Fridays before 5:00 PM. Late assignments will not be accepted. Your lowest homework score will be dropped and not counted in your final grade. Homework will be graded on accuracy and the point value of the assignment will depend on the number of problems assigned.
- **Participation:** Most days will consist of a discussion of the readings and the material covered in class following the lecture. You will be graded on the quality and quantity of your contributions. These two areas are not substitutes: neither a large number of low-quality comments nor a few high-quality comments will be sufficient to earn full credit. Rather, you should aim to be actively engaged in the discussion, making a reasonable number of high-quality contributions to most discussion days.
- **Midterm:** The midterm will be taken during the class period on **Tuesday, March 9th** and will cover material from the readings and class lectures. You will have the full class time to complete the exam. Electronic devices are prohibited.

- **Presentation:** You will sign up to present one of the papers on the syllabus denoted with a  in the [Course Schedule](#) on their respective days. Your presentation should be somewhere between 10 and 15 minutes. The majority of your presentation should consist of walking through the applied game theoretic model in the paper and breaking it down in a digestible manner.
- **Final Exam:** The final will be on **Tuesday, May 4th at 7:30pm**. The test is cumulative, covering material from the readings and class lectures from the whole semester.

Bonus Opportunity

You will be given the opportunity to earn an added 2% to your grade by submitting a response to the weekly topics of the [Wall Street Journal Future View](#). The only requirement is that your response include some form of economic analysis. Your response will be graded out of 5 points. If you do not earn full credit in your first submission, you can keep submitting to earn all of the possible points, but no more than 5 points in total will be awarded. Responses must be emailed to me no later than Monday at 11:59 PM before the journal's deadline.

Grading Scale

You will earn a letter grade based off your overall course percentage from the weighted categories listed above. Letter grades correspond to the percentages as shown in the table. I will round up 0.5 and round down 0.49.

Grade	Percentage
A+	97-100%
A	93-96%
A-	90-92%
B+	87-89%
B	83-86%
B-	80-82%
C+	77-79%
C	73-76%
C-	70-72%
D	60-69%
F	<60%

Office Hours

Weekly office hours will be held on [Zoom](#) on Fridays from 10:00 AM to 12:00 PM. If you are unavailable at this time, please email me and we can reschedule.

Technology Policy

Cell phones, pagers, and other communicative devices are not allowed in this class. Please keep them stowed away and out of sight. Laptops or tablets will not be permitted during the lecture, but are permitted during discussions for the purpose of taking notes or accessing the readings only. Engaging in activities not related to the course (e.g., gaming, watching videos, email, chat, etc.) will result in a significant deduction in your participation grade.

Special Accommodations

Disability Services at George Mason University is committed to providing equitable access to learning opportunities for all students by upholding the laws that ensure equal treatment of people with disabilities. If you are seeking accommodations for this class, please first visit <http://dsgmu.wpengine.com/> for detailed information about the Disability Services registration process. Then please discuss your approved accommodations with me. Disability Services is located in Student Union Building I (SUB I), Suite 2500. Email: ods@gmu.edu | Phone: (703) 993-2474

Audio/Video Recording & Pictures

For the privacy and comfort of your fellow students, audio and video recordings, as well as photography, is strictly prohibited during class.

Academic Dishonesty

Cheating will not be tolerated and can result in a failing grade, dismissal from class, and expulsion from the university. If I suspect you of cheating, I will seek the appropriate punishment under George Mason University guidelines. Please review the [George Mason University Honor System and Code](#).

Course Schedule

Date	Class Topic	Readings
Tuesday, January 26th	Basic Ideas and Examples	<ul style="list-style-type: none"> ★ <i>Games of Strategy</i> by Dixit, Skeath, and McAdams, Ch. 1 🎬 <i>The Princess Bride</i> by Reiner, The Battle of Wits Scene
Tuesday, February 2nd	How to Think about Strategic Games	<ul style="list-style-type: none"> ★ <i>Games of Strategy</i> by Dixit, Skeath, and McAdams, Ch. 2 ★ <i>Institutions, Institutional Change and Economic Performance</i> by North, Ch. 1, 2 ★ 🎬 "The Importance of Institutions" from Marginal Revolution University ★ "Do Institutions Cause Growth?" by Gleaser, La Porta, Lopez-de-Silanes, and Shleifer "Entrepreneurship: Productive, Unproductive, and Destructive" by Baumol "Toward a Theory of Property Rights" by Demsetz 🎬 <i>Arrival</i> directed by Villeneuve, Non-Zero-Sum Game Scene, Watch until 4:48

Date	Class Topic	Readings
Tuesday, February 9th	Games with Sequential Moves	<ul style="list-style-type: none"> ★ <i>Games of Strategy</i> by Dixit, Skeath, and McAdams, Ch. 3 ★ "The Deadliest of Games: The Institution of Dueling" by Kingston and Wright ★ <i>Institutions, Institutional Change and Economic Performance</i> by North, Ch. 4 ★ "Institutional Stickiness and the New Development Economics" by Boettke, Coyne, and Leeson "The Duel: Can These Gentlemen Be Acting Efficiently?" by Schwartz, Baxter, and Ryan "Economic Calculation and the Organization of Markets" by Piano and Rouanet
Tuesday, February 16th	Simultaneous-Move Games: Discrete	<ul style="list-style-type: none"> ★ <i>Games of Strategy</i> by Dixit, Skeath, and McAdams, Ch. 4 ★ <i>Institutions, Institutional Change and Economic Performance</i> by North, Ch. 5 ★ "Informal Institutions Rule: Institutional Arrangements and Economic Performance" by Williamson ★ "Gypsy Law" by Leeson ✍ "God Damn': The Law and Economics of Monastic Malediction" by Leeson 🎬 <i>Rebel Without a Cause</i> directed by Ray, "Chickie Run" Scene Part 1 and 2
Tuesday, February 23rd	Simultaneous-Move Games: Continuous	<ul style="list-style-type: none"> ★ <i>Games of Strategy</i> by Dixit, Skeath, and McAdams, Ch. 5 ★ "The Role of Institutions in the Revival of Trade: The Law Merchant, Private Judges, and the Champagne Fairs" by Milgrom, North, and Weingast ★ "The Spontaneous Evolution of Commercial Law" by Benson ✍ "Human Sacrifice" by Leeson

Date	Class Topic	Readings
Tuesday, March 2nd	Simultaneous-Move Games: Mixed Strategies	<ul style="list-style-type: none"> ★ <i>Games of Strategy</i> by Dixit, Skeath, and McAdams, Ch. 7 ★ "Oracles" by Leeson ★  "Ordeals" by Leeson "Hooligans" by Leeson, Smith, and Snow 🎥 "Beating Boris Becker By Observing His Tongue" interview with Andre Agassi 🎥 Butler picks off Wilson to seal Patriots Super Bowl XLIX victory. Why pass?
Tuesday, March 9th	Midterm	
Tuesday, March 16th	Strategic Moves	<ul style="list-style-type: none"> ★ <i>Games of Strategy</i> by Dixit, Skeath, and McAdams, Ch. 8 ★ <i>Institutions, Institutional Change and Economic Performance</i> by North, Ch. 6 ★ "Government, Clubs, and Constitutions" by Leeson ★  "The Infallibility of the Pope" by Ferrero "Adam Smith's Industrial Organization of Religion: Explaining the Medieval Monopoly and its Breakdown in the Reformation" by Weingast 🎥 <i>Dr. Strangelove</i> directed by Kubrick, Domsday Machine Scene
Tuesday, March 23rd	Uncertainty and Information	<ul style="list-style-type: none"> ★ <i>Games of Strategy</i> by Dixit, Skeath, and McAdams, Ch. 9 ★ <i>Institutions, Institutional Change and Economic Performance</i> by North, Ch. 7 ★  "The Economic Role of Political Institutions: Market-Preserving Federalism and Economic Development" by Weingast "Unbundling Institutions" by Acemoglu and Robinson 🔊 "Bryan Caplan on College, Signaling and Human Capital" from EconTalk

Date	Class Topic	Readings
Tuesday, March 30th	The Prisoners' Dilemma and Repeated Games	<ul style="list-style-type: none"> ★ <i>Games of Strategy</i> by Dixit, Skeath, and McAdams, Ch. 10 ★ "Not so Different after All: A Cross-Discipline View of Trust" by Rousseau, Sitkin, Burt, and Camerer ★ "Adam Smith and the Prisoners' Dilemma" by Tullock ✍ "Trading with Bandits" by Leeson "Non-prisoner's dilemma" by Tullock "Contracts Without Government" by Leeson
Tuesday, April 6th	Collective-Action Games	<ul style="list-style-type: none"> ★ <i>Games of Strategy</i> by Dixit, Skeath, and McAdams, Ch. 11 ★ "The Paradox of Revolution" by Tullock ★ "Political Revolution and Repression: An Economic Approach" by Silver ✍ "Rational Choice, Round Robin, and Rebellion: An Institutional Solution to the Problems of Revolution" by Leeson "Early Refund Bonuses Increase Successful Crowdfunding" by Cason, Tabarrok, and Zubrickas "Collective Action with Uncertain Payoffs: Coordination, Public Signals, and Punishment Dilemmas" by Shadmehr and Bernhardt "A Theory of Political Transitions" by Acemoglu and Robinson "And Cut! Brave Lord of the Rings Warriors Running Away In Their Thousands" by Fontana "It's hard enough to start a revolution, even harder to sustain it, and hardest of all to win it. But it's only afterwards, once we've won, that the real difficulties begin." - Larbi Ben M'hidi in <i>The Battle of Algiers</i> (1966) directed by Gillo Pontecorvo

Date	Class Topic	Readings
Tuesday, April 13th	Evolutionary Games	<ul style="list-style-type: none"> ★ <i>Games of Strategy</i> by Dixit, Skeath, and McAdams, Ch. 12 ★ "Dictatorship, Democracy, and Development" by Olson ★ <i>Institutions, Institutional Change and Economic Performance</i> by North, Ch. 8, 9 ★ "An-arrgh-chy: The Law and Economics of Pirate Organization" by Leeson ✍ "The Laws of Lawlessness" by Leeson "Criminal Constitutions" by Leeson and Skarbek "Governance and Prison Gangs" by Skarbek "The Governance Institutions of a Drug Trafficking Organization" by Kostelnik and Skarbek
Tuesday, April 20th	Auctions, Bidding Strategy, and Auction Design	<ul style="list-style-type: none"> ★ <i>Games of Strategy</i> by Dixit, Skeath, and McAdams, Ch. 15 ★ "Trial by Battle" by Leeson ★ <i>Institutions, Institutional Change and Economic Performance</i> by North, Ch. 10, 11 ★ "Constitutions and Commitment: The Evolution of Institutions Governing Public Choice in Seventeenth-Century England" by North and Weingast ✍ "Credible Commitments: Using Hostages to Support Exchange" by Williamson 📺 Tyler Cowen's Talk at Google: "Discover Your Inner Economist"

Date	Class Topic	Readings
Tuesday, April 27th	Strategy and Voting	<p>★ <i>Games of Strategy</i> by Dixit, Skeath, and McAdams, Ch. 16</p> <p>★ <i>Institutions, Institutional Change and Economic Performance</i> by North, Ch. 12, 13</p> <p>★ "Institutions: Rules or Equilibria?" by Greif and Kingston</p> <p>✍ "How Much Benevolence Is Benevolent Enough?" by Leeson</p> <p>"Comparing Theories of Institutional Change" by Kingston and Caballero</p> <p>"A Theory of Endogenous Institutional Change" by Greif and Laitin</p> <p>"An Introduction to Applicable Game Theory" by Gibbons</p>
Tuesday, May 4th	Final Exam	