



**EC 314-01-1 Games and
Economic Behaviors
Fall 2025 Course Syllabus
*Independent Study**

Instructor: Dr. Guanlin Gao
Email: guanlin.gao@chaminade.edu
Office: Kieffer Hall, Room 22

Class meets: Hybrid, weekly meetings mutually agreed between the student(s) and instructor based on their schedules.
Office Hours: By appointment.

Course description: This course examines the competitive and cooperative behaviors that occur when parties with conflicting interests must work together. The course also introduces students to individual and group behaviors, and their consequences that happen when the standard economic assumption of self-interest is violated. Applications of the game theory framework and analytical tools to issues in areas such as politics, international relations, business, law, biology and more will be introduced.

Reference book: Joseph E. Harrington. *Games, Strategies, and Decision Making*. 2nd Edition. Worth Publisher. 2014. ISBN-13: 978-1429239967. ISBN-10: 1429239964.

Course objectives: By the end of the course, students will be able to

- Describe basic concepts of game theory, including dominant strategy, Nash equilibrium, sequential game, payoff matrix, mixed-strategy game, etc.
- Identify strategic situations and represent them as games
- Solve simple games using various techniques
- Analyze economic situations using game theory techniques
- Evaluate game theory principles in the real-world setting

This course satisfies the following underlined Program Learning Outcomes and Marianist Values:

Program Learning Outcomes

- 1) Demonstrate effective business communication skills in oral, written, and technological contexts.
- 2) Utilize appropriate technologies (such as business software, quantitative methods/modeling techniques, or other advanced analytical tools) for effective business decision making.
- 3) Create effective business strategies by leveraging competitive advantage and using relevant data and knowledge from all foundational areas of business that are appropriate for domestic and international organizations.

- 4) Synthesize the ethical, legal, and/or strategic dilemmas that modern businesses face.
- 5) Analyze international dynamics and cultural differences in the business context.
- 6) Collaborate effectively with teams in various formats including in person and through the use of technological tools.
- 7) Identify opportunities to advocate for sustainability, service, justice and peace in the business decision-making process.

Marianist Values:

Native Hawaiian Values:

1) Education for formation in faith	(Mana) E ola au i ke akua ('Ōlelo No'eau 364) - May I live by God
2) Provide an integral, quality education	(Na'auao) Lawe i ka ma'alea a kū'ono'ono ('Ōlelo No'eau 1957) - Acquire skill and make it deep
3) <u>Educate in family spirit</u>	(‘Ohana) ‘Ike aku, ‘ike mai, kōkua aku kōkua mai; pela iho la ka nohana ‘ohana ('Ōlelo No'eau 1200) - <u>Recognize others, be recognized, help others, be helped; such is a family relationship</u>
4) Educate for service, justice & peace	(Aloha) Ka lama kū o ka no'eau ('Ōlelo No'eau 1430) - Education is the standing torch of wisdom
5) <u>Educate for adaptation & change</u>	(Aina) ‘A'ohe pau ka ‘ike i ka hālau ho'okahi ('Ōlelo No'eau 203) - <u>All knowledge is not taught in the same school</u>

WASC Core Competencies:

1. Written Communication
2. Oral Communication
3. Quantitative reasoning
4. Critical Thinking
5. Information Literacy

Credit Hour Policy: This is a three-credit hour course requiring 135 clock hours of student engagement, per the official CUH Credit Hour Policy. Students enrolled in this course are anticipated to spend a total of 35 hours in class, including in-person and online sessions, 10 hours preparing or a final project. There will be an additional 90 hours of work required beyond what is listed here, including but not limited to, course readings, homework assignments, group discussions/independent research, etc., averaging 5 hours each week during the 16-week accelerated semester.

Course Policies: Please see the following for our class policy. You are expected to act in a professional manner for this class. Class participation and collaboration are strongly encouraged.

1. **Email communication:** When emailing me, please include your name and class information in the email. Please expect a reply within 24 hours on weekdays and 48 hours on weekends.

2. **Course website:** You are responsible for checking our Canvas course webpage regularly. All the course materials, announcements, homework assignments, grades, etc. will be posted on the course webpage. Missing an announcement or email is not a valid reason for not completing any course requirement.
3. **Class etiquette:** You are expected to behave properly in class so as not to disrupt other students or the learning environment, including not talking or texting during lecture times, arriving on time and not leaving early, etc. If you must leave class early or arrive late for any reason, please let me know in advance.

Grading and Assignments: Your grade is composed of the following four items:

1. **Attendance:** 200 points. You will earn attendance points by playing in-class games.
2. **Problem sets:** 50 points each * 6 problem sets = 300 points total
3. **Exam:** 100. More information will be provided on the first day of class.

Grading Scales (without final exam):

Total Points	Letter Grade
≥ 540	A
480 - 539	B
420 - 479	C
360 - 419	D
≤ 359	F

Tentative course outline:

1. An introduction to game theory
 - 1) Game theory concepts
 - 2) Games of chance
 - 3) Nash equilibrium for two-person games
 - 4) Mixed strategies and mixed strategy equilibrium
 - 5) Non-cooperative market games
 - 6) Signaling games and sequential equilibrium
 - 7) Repeated games
2. Behavioral game theory & social preferences
 - 1) Evidence of social behavior
 - 2) Two-player bargaining
 - 3) Rationality & strategic interaction
 - 4) Models of fairness and reciprocity
 - 5) Games between a principal and an agent
 - 6) Auctions

University Policies:

Marianist Values:

1. Educate for Formation in Faith
2. Provide an Integral Quality Education
3. Educate in Family Spirit
4. Educate for Service, Justice, and Peace
5. Educate for Adaptation and Change

WASC Core Competencies:

6. Written Communication
7. Oral Communication
8. Quantitative reasoning
9. Critical Thinking
10. Information Literacy

Academic Honesty Statement: Violations of the Honor Code are serious. They harm other students, your professor, and the integrity of the University. Alleged violations will be referred to the Office of Judicial Affairs. If found guilty of plagiarism, a student might receive a range of penalties, including failure of an assignment, failure of an assignment and withholding of the final course grade until a paper is turned in on the topic of plagiarism, failure of the course, or suspension from the University.

Violations of Academic Integrity: Violations of the principle include, but are not limited to:

- Cheating: Intentionally using or attempting to use unauthorized materials, information, notes, study aids, or other devices in any academic exercise.
 - Fabrication and Falsification: Intentional and unauthorized alteration or invention of any information or citation in an academic exercise. Falsification is a matter of inventing or counterfeiting information for use in any academic exercise.
 - Multiple Submissions: The submission of substantial portions of the same academic work for credit (including oral reports) more than once without authorization.
 - Plagiarism: Intentionally or knowingly presenting the work of another as one's own (i.e., without proper acknowledgment of the source).
 - Abuse of Academic Materials: Intentionally or knowingly destroying, stealing, or making inaccessible library or other academic resource materials.
- Complicity in Academic Dishonesty: Intentionally or knowingly helping or attempting to help another to commit an act of academic dishonesty.

Plagiarism includes, but is not limited to:

- Copying or borrowing liberally from someone else's work without his/her knowledge or permission; or with his/her knowledge or permission and turning it in as your own work.
- Copying of someone else's exam or paper.
- Allowing someone to turn in your work as his or her own.
- Not providing adequate references for cited work.
- Copying and pasting large quotes or passages without properly citing them.

Title IX Compliance: Chaminade University of Honolulu recognizes the inherent dignity of all individuals and promotes respect for all people. Sexual misconduct, physical and/or

psychological abuse will NOT be tolerated at CUH. If you have been the victim of sexual misconduct, physical and/or psychological abuse, we encourage you to report this matter promptly. As a faculty member, I am interested in promoting a safe and healthy environment, and should I learn of any sexual misconduct, physical and/or psychological abuse, I must report the matter to the Title IX Coordinator. Should you want to speak to a confidential source you may contact the following:

- Chaminade Counseling Center: 808-735-4845
- Any priest serving as a sacramental confessor or any ordained religious leader serving in the sacred confidence role.

Disability Access:

The University is committed to providing reasonable accommodations for all persons with disabilities. This syllabus is available in alternate formats upon request. Students who need accommodations must be registered with Student Disability Services. Students with special needs who meet criteria for the Americans with Disabilities Act (ADA) provisions must provide written documentation of the need for accommodations from the Counseling Center by the end of week three of the class, in order for the instructor to plan accordingly. Failure to provide written documentation will prevent your instructor from making the necessary accommodations. Please refer any questions to the Dean of Students.