

# Economics 4340/7340: Introduction to Game Theory

## Spring 2022

**Class time and location:** Tuesday/Thursday 11am-12:15pm, Mumford Hall 133.

**Instructor:** Oksana Loginova, loginovao@missouri.edu, office hours on Wednesday 8:30-9:30am, 325 Professional Bldg.

**Course description:** This course is an introduction to the theory of games, a set of tools used widely in economics to study situations in which decision-makers (consumers, firms, politicians, governments, etc.) interact. The course introduces the basic theory, emphasizing the concepts. A variety of applications will be discussed, mostly in economics, but also in other disciplines.

**Textbook:** Avinash Dixit, Susan Skeath, and David MacAdams, *Games of Strategy*, 5th edition.

**Course requirements and grading:** There will be six homework assignments, two midterm exams (February 22 and March 24) and a final exam on Wednesday, May 11, 10am-12pm. All homeworks and exams will be of the problem-solving type.

The course will be graded on the bases of the homeworks (15%), the midterm exams (25% each) and the final exam (35%). Letter grades will be mapped in the usual way, i.e. A range is from 100% to 94.00%, A- from < 94.00% to 90.00%, B+ from < 90.00% to 87.00%, B from < 87.00% to 84.00%, B- from < 84.00% to 80.00%, C+ from < 80.00% to 77.00%, C from < 77.00% to 74.00%, C- from < 74.00% to 70.00%, D+ from < 70.00% to 67.00%, D from < 67.00% to 64.00%, D- from < 64.00% to 61.00%, F below that.

**Canvas site:** The course information, homework assignments, extra practice materials and announcements (including any changes made regarding the class) can be found on the course Canvas site. You may also check your homework and exam scores on the course Canvas site.

### Major topics:

1. Concepts and Techniques (Chapters 3–7)
  - sequential-move games
  - simultaneous-move games
  - pure and mixed strategies
2. Classes of Games and Strategies (Chapters 8–11)
  - signaling
  - strategic moves
  - repeated games
  - collective action
3. Applications (Chapters 16, 17)
  - voting
  - bargaining

**Late homework assignments and makeup exams:** All homework assignments must be submitted to me at the beginning of class on the stated date. No late homeworks will be accepted. Taken together, homeworks are worth only 15% of the course grade; however, their main purpose is to provide you with practice material for the exams and to improve your understanding of the course material.

Students are expected to take exams at the times scheduled in the syllabus. Possible exceptions include serious illness, family emergency, or a legitimate conflict with recognized University activities. If these apply, you must contact me to request a makeup. Make these arrangements as soon as you know of the conflict.

**Academic integrity:** Academic integrity is fundamental to the activities and principles of a university. All members of the academic community must be confident that each person's work has been responsibly and honorably acquired, developed, and presented. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. The academic community regards breaches of the academic integrity rules as extremely serious matters. Sanctions for such a breach may include academic sanctions from the instructor, including failing the course for any violation, to disciplinary sanctions ranging from probation to expulsion. When in doubt about plagiarism, paraphrasing, quoting, collaboration, or any other form of cheating, consult the course instructor.

**Students with disabilities:** If you anticipate barriers related to the format of requirements of this course, or if you have emergency medical information to share with me, please let me know as soon as possible. If disability related accommodations are necessary (for example, a note taker, extended time on exams), please establish an accommodation plan with the Disability Center (<http://disabilitycenter.missouri.edu/>), S5 Memorial Union, 573-882-4696, and then notify me of your eligibility for reasonable accommodations.

**Intellectual pluralism:** The University community welcomes intellectual diversity and respects student rights. Students who have questions or concerns regarding the atmosphere in this class (including respect for diverse opinions) may contact the departmental chair or divisional director, the Office of Academic Integrity (<http://oai.missouri.edu/>), or the MU Equity Office (<http://equity.missouri.edu/>). All students will have the opportunity to submit an anonymous evaluation of the instructor at the end of the course.

**Nondiscrimination policy** The University of Missouri is an Equal Opportunity/ Affirmative Action institution and does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, age, disability, or status as a protected veteran.