

Econ 402: Decision Making and Strategy in Economics

260 Willard Building, MTWRF 11:10-12:25
personal.psu.edu/bxs5142/teaching.html

Instructor

Bruno Salcedo

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Grader

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Course objective

This course is about predicting and understanding strategic behavior. The objective of the course is to introduce the students to the basic tools and concepts of Game Theory and to get them to think in terms of strategies and incentives. The first half of the course will cover different ways to model strategic environments and some basic solution concepts. In the second half, we will focus on mechanism design: the construction of incentives that yield desired outcomes.

Prerequisites

The course has ECON302 and either SCM200 or STAT200 as prerequisites. Students must be familiar with high-school level algebra and some basic concepts from probability theory (probability, expected value and independence). Understanding of functions and the most basic elements of set theory (set, element and subset) is also required. Calculus is by no means necessary, but students are welcome to use it if they find it useful, *provided they do so correctly*. If you have any issues with these topics, please contact the instructor.

Grading

There will be three homework assignments, two midterm exams and a final exam. The final grade will be composed according to: 25% from homework, 25% from each midterm and 25% from the final exam. There will be voluntary participation “games” each Friday that might earn you extra credit.

Communication

Class slides, homework assignments and mandatory readings (other than the textbook) will be published online on the course website personal.psu.edu/bxs5142/teaching.html. Grades will be posted on ANGEL. The best way to contact the instructor is via e-mail messages sent to bruno@psu.edu. Please see me if you have concerns or comments about the course. In special circumstances, you may contact the Director of Undergraduate Studies in Economics or provide feedback via a comment box that the Department maintains in 608 Kern.

References

We will use the following textbook:

- JOEL WATSON (2008) *Strategy: An Introduction to Game Theory*. W. W. Norton & Company. 2nd Ed.

Students are also required to read class slides and lecture notes that will be published on the course website. The following *optional* references might be useful complements to the mandatory readings:

- ROBERT GIBBONS (1992) *Game theory for applied economists*. Princeton University Press
 - MARTIN J. OSBORNE (2003) *An introduction to Game Theory*. Oxford University Press
 - ITZHAK GILBOA (2010) *Rational choice*. MIT Press
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Tentative Course Outline

1. Extensive form games, Ch 2 pp 11-20
2. Strategic form games, Ch 3 pp 24-35
3. Best responses and rationalizability, Ch4-Ch8 pp 39-86
4. Nash equilibrium in pure strategies, Ch9-Ch10 pp 89 - 109
First Midterm Exam, date: Wednesday 05/29
5. Nash equilibrium in mixed strategies, Ch11 pp 123-128
6. Backward induction and subgame perfection, Ch15 pp 166-175
7. Moral hazard and contracts, Ch12 pp 139-151 *and* lecture notes
Second Midterm Exam, date: Tuesday 06/12
8. Relational contracts in repeated interactions, Ch22-Ch23 pp 257-277
9. Private information and Bayesian equilibrium, Ch24-Ch26 pp 291-316
10. Topics in informational economics, Ch27 & Ch29 pp 320-333 & 349-357
11. Introduction to rational choice theory, lecture notes

Disability Access Policy

The Pennsylvania State University encourages qualified persons with disabilities to participate in its programs and activities and is committed to the policy that all people shall have equal access to programs, facilities, and admissions without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. If you anticipate needing any type of accommodation in this course or have questions about physical access, please tell me as soon as possible.

Academic Integrity

Students must observe the policies from the College of Liberal Arts (Faculty Senate Policy 49-20) and from the Economics Department regarding academic integrity. These policies, including the procedure to be followed when a student is charged with any violations, can be found online at econ.la.psu.edu/undergraduate/#aca_int and senate.psu.edu/policies/.

Valid Excuses

During the course, many possible situations may arise that would result in your inability to attend class, attend exams, or perform at a minimally acceptable level during an examination. Illness or injury, family emergencies, certain University-approved curricular and extra-curricular activities, and religious holidays can be legitimate reasons to miss class or to be excused from a scheduled examination. The Economics Department policy regarding absence, including the student's responsibility to document an excuse, is available online at econ.la.psu.edu/undergraduate/#valid.
