

**SUMMER 2022**  
**Department of Economics**  
**TOBB University of Economics and Technology**

**Econ 426: ECONOMICS OF INFORMATION AND MECHANISM DESIGN**

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The best way to contact me is through email. Emails will be returned within 24 hours except over the weekends. Important information such as the announcements about homework assignments and tests will be sent to students' university email accounts. All the materials related to the course will be uploaded to <https://uzak.etu.edu.tr> as well as to my web site at <https://aycaozdogan.weebly.com>. It is **YOUR responsibility** to check your *emails*, *uzak* and *ortam* platforms at least once a week.

**COURSE DESCRIPTION/CONTENT**

This course covers some selected topics in economics of information, mechanism and contract design. After establishing the basic problems associated with the informational asymmetries among the agents participating in a strategic interaction, we ask whether optimal design of contracts, institutions and social choice rules could overcome some of these problems. Applications include optimal contracts in insurance and labor markets, tax design, auction design, voting rules etc.

**PREREQUISITES**

Students should have successfully completed ECON 214 (Microeconomics II – Introduction to Game Theory) and ECON 261 (Math for Econ) prior to taking this course. The main mathematical tool is nonlinear optimization under constraints. The methods of constrained optimization will be reviewed in the lectures; yet, the students need to have a sound background in calculus. The students are expected to be familiar with mathematical notation and formal reasoning and preferable had taken IKT 415 before.

**TEXTBOOK**

There is no required textbooks. The following constitute a partial list of suggested resources.

- Inés Macho-Stadler and J. David Pérez-Castrillo, An Introduction to the Economics of Information: Incentives and Contracts, Oxford University Press, 2001.
- Bernard Salanié, The Economics of Contracts: A Primer, 2nd ed., MIT Press, 2005.
- Patrick Bolton and Matthias Dewatripont, *Contract Theory* (MIT Press, 2005).
- Levent Koçkesen's lecture notes (can be found online)

## GRADING POLICY

The final grade is determined as follows:

Homework (20 %) + Midterm I (20 %) + Midterm II (20 %) + Final (40 %)

Below are the grading cut-off points:

**AA: 92-100, BA: 85-91, BB: 78-84, CB: 70-77, CC: 65-69, DC: 56-64, DD: 50-55.**

Incomplete grade (I): A low class standing is not a valid reason for an I grade. An I grade is given only in exceptional circumstances like hospitalization or family emergencies; and an arrangement must be worked out between the student and me before the final exam. I require written proof of emergencies. You have one year to make up an I; and must repeat the course in its entirety.

### Homework

There will be three or four homework assignments. The late homework scores will be discounted with 0.8 for each day of late submission. No homework assignments will be accepted two days after the due date. If you cannot make it to class, please make sure the assignment reaches me on or ahead of time (on time means the start of lecture time on the due date). While students are encouraged to discuss the assignments with classmates, everyone has to write his/her own assignment independently in their own words and cite the names of the people whom they work with.

### Midterms

Make up's are not allowed for the midterm exam under any circumstances, except in medical emergencies for which a doctor's note is required. If a student knows he/she will be absent on the day of the exam for legitimate reasons (such as participation in activities sponsored by the university etc.), it is his/her responsibility to notify the instructor as far in advance as possible (again, with documentation). The midterm exam will be in class and closed book.

### Final

The final is cumulative. The make-up will be granted only in case of a valid and documented reason. Absence without any valid documentation will result in a grade of zero from that exam. In case of an illness, you are required to bring a formal doctor's note from a hospital. Students who want to take a make-up exam need to inform me by email as early as possible. You have to bring or fax the doctor's note to me within 5 business days after the exam. The final will be in class and closed book.

## NOTES ON ACADEMIC HONESTY

You are encouraged to work with others in understanding the concepts and problems. However, each student must hand in their own homework assignment and all the sources of information and references used including a classmate must be **cited**. Identical answers will receive a score of zero. If the academic dishonesty occurs on a final or midterm, a grade of F will be received. Cheating and plagiarism will be penalized according to the disciplinary rules of the university and YÖK.

## OTHER NOTES

1. Students are responsible for material covered in both the lecture and supporting material in the mentioned chapters of the textbook. Everything discussed in class is part of the course and will appear on exams.
2. Please attend all class lectures. If you miss any, please make sure you get lecture notes from your classmates. Do try and make friends who can assist you!
3. Please use technology “responsibly” while you are in the classroom. This means TURNING OFF your cell-phones and any other devices, and your computers as well. The instructor thanks you in advance.
4. Only registered students should attend this course section. All visitors must consult the Instructor before attending any lecture.

## TENTATIVE COURSE PLAN

The following is a list of topics to be covered. You will be responsible for all the lecture material and hence the attendance is essential.

- I. Introduction and problems due to asymmetric information (first week)
  - Hidden-information: Signalling and screening (adverse selection)
  - Hidden-action: Moral hazard
- II. Dynamic games of incomplete information and signalling games (about 2-3 weeks)
- III. Mechanism Design (about 4 weeks)
  1. The Basics and the Revelation principle
  2. Mechanism design with one agent: Adverse Selection (Screening)
- IV. Moral hazard and contract design (principal-agent/agency problems) (about 2-3 weeks)
- V. Social Choice (if time permits)

## TENTATIVE IMPORTANT DATES

**MIDTERM I:** June 7, Tuesday, in class.

**MIDTERM II:** July 5, Tuesday, in class.

**FINAL EXAM:** July 26, Tuesday, in class.