

## IKT 214: Microeconomics II

### Syllabus (Tentative)

FALL 2018

**Instructor:** Ethem Akyol, **e-mail:** eakyol@etu.edu.tr, akylethem@gmail.com

**Office Hours:**

**Time and Location:**

**Teaching Assistant:** .

**Course Overview:** Standard economic theory assumes price-taking behavior: Agents do not influence the environment that they operate and they just try to maximize their utilities given the environment. That is, the world is “too big”, or, in other words, agents are “too small” that their actions do not influence the environment.

However, this is hardly realistic in many situations. In many situations, agents think and behave *strategically*. They take into account the fact that their actions affect the outcomes and therefore others’ payoffs; and similarly, others’ actions affect their own payoffs. Given these, agents adjust their actions accordingly. *Game theory* analyzes such strategic situations and tells us how “players” should act to maximize their well-beings.

This course is an introduction to game theory. It is mathematical by nature and you will be expected to know simple single variable calculus. If you require assistance regarding the mathematics required for the course, please consult the instructor.

**Textbook:** The textbook for the course is:

Dixit, Skeath and Reiley, Jr., *Games of Strategy*, W.W. Norton, 2009, Third edition

(NOTE: We may not closely follow the book.)

You may also benefit from the following books:

Gibbons, Robert, *Game Theory for Applied Economists*, Princeton University Press, 1992

Watson, Joel, *Strategy: An Introduction to Game Theory*, W.W. Norton

Osborne, Martin J., *An Introduction to Game Theory*, Oxford University Press (2004)

Gibbons, Robert, *Game Theory for Applied Economists*, Princeton University Press

Dixit and Nalebuff, *Thinking Strategically*, W. W. Norton (1991)

Dutta, Prajit K., *Strategies and Games: Theory and Practice*, Second Edition, W.W. Norton

**Exams:** There will be a midterm exam and a final exam. The final exam will be cumulative. The exam dates will be announced later.

**Homeworks/Quizzes:** There will be a number of homeworks and/or quizzes during the semester. You are required to submit your homework on time. Late homeworks will not be accepted. No exceptions. There will also be quizzes in class which may or may not be announced before.

You are free to discuss homework problems with your classmates but **each student must submit his/her own work**. You should never copy someone else's work. Such actions will be subject to University's disciplinary actions.

**Grading:** Homeworks/quizzes, midterm exam and the final exam will count towards the final grade as follows:

Homeworks/Quiz	20%
Midterm	40%
Final	40%

**E-mail Policy:** You may receive important information regarding class material, assignments and/or exams via e-mail. Each student is responsible for checking his/her e-mail regularly to get these information. I will use the "...@etu.edu.tr" e-mail addresses to send these information and assume that e-mails are read within 24 hours.

**Make-Up Policy:** Each student is expected to take the exam at specified dates. You are entitled to receive a make-up exam *only* in the case of a *documented* illness, emergency, etc. **These must be documented and sent to the instructor via e-mail within 5 business days.** No exceptions.

## COURSE OUTLINE

(Subject to revisions)

- 1. Introduction. What is a game? Classifying Games.** (Chapters 1-2)
- 2. Choice under Uncertainty.** Expected Utility. (Chapter 7 Appendix)
- 3. Simultaneous move games.** Dominant strategies, Pure strategies, Nash Equilibrium, Mixed strategies. (Chapters 4,5,7 and 8)
- 4. Sequential move games.** Backward Induction (Chapter 3)
- 5. Combining simultaneous-sequential move games.** Subgame Perfect Equilibrium (Chapter 6)
- 6.** Signalling, Spence's Education model, Screening (Chaper 9)
- 7.** Mechanism Design, Adverse Selection, Moral Hazard (Chapter 14)
- 8.** Bidding strategy and auction design (Chapter 17) (if time permits)

(NOTE: Chapters belong to textbook *Games of Strategy*. However, as noted we may not follow the book closely. Chapter numbers are given for reference.)