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Advanced Microeconomics II

This course is a continuation of the Advanced Microeconomics I and its aim is to make students familiar with some more advanced methods in microeconomic theory as well as with some current research in formal microeconomic modeling. We recommend few textbooks: Mas-Colell, Whinston, and Green (1995), Gilboa (2009), Kreps (1988), Kreps (2012), Jehle and Reny (2011) or Rubinstein (2006) but we will give some more detailed reading during the class. The course is formal hence students are expected to know basic mathematical tools including: calculus, (smooth) constrained optimization, convex analysis or linear algebra. Knowledge of mathematical appendix of Mas-Colell, Whinston, and Green (1995) should suffice.

Final exam (50%), homework (25%), class presentations (25%).

1. **Preferences and consumer choice. Review**. Debreu, Afriat and Brown-Matzkin theorems.
   Readings: Kreps (2012), chapters 2.3 4.2, Brown and Matzkin (1996).

2. **Ordinal utility**. weak order, choice functions, WARP, Cantor's theorem, normative vs. descriptive interpretations, limitations: semi-orders, interval orders and partial orders, other ways to measure utility
   Readings: Gilboa (2009), chapters 7-8, Kreps (1988), chapters 2-3.

3. **Risk I**. Preferences over lotteries. v-NM theorem
   Readings: Mas-Colell, Whinston, and Green (1995): chapter 6, Schmeidler (2004): selected parts, Gilboa (2009), chapter 9.

4. **Risk II**. Risk attitudes under Expected Utility Theory. Arrow-Pratt theorem. First and second order stochastic dominance.
   Readings: Mas-Colell, Whinston, and Green (1995): chapter 6.

5. **Risk III**. Applications of Expected Utility Theory: insurance, optimal portfolio selection, self-justification.
   Readings: Mas-Colell, Whinston, and Green (1995): chapter 6, Brunnermeier and Parker (2005)

6. **Risk IV**. Measures of riskiness: economic index of riskiness, operational measure of riskiness.
   Readings: Aumann and Serrano (2008), Foster and Hart (2009)

7. **Uncertainty**. Herstein, Milnor mixture space theorem, Anscombe, Aummann Subjective Expected Utility theorem
   Readings: Schmeidler (2004): selected parts, Anscombe, Aumann, et al. (1963)

8. **Non-expected utility models**. Expected Utility paradoxes, prospect theory, Choquet expected utility, multiple prior Expected Utility
   Readings: Gilboa (2009) chapters:16–18.

9. **Hidden actions**. Grossman-Hart model, its extensions (linearity, multiple task, multiple agents, common agency) and applications (contracting). Introduction to dynamic models.
   Readings: Laffont and Martimort (2002), 4-5.

10. **Hidden information**. Monopolistic screening.
    Readings: Baron and Myerson (1982), Maskin and Riley (1984).

11. **Adverse selection**.
    Readings: Laffont and Martimort (2002), 2-3.

12. **Time consistency 1**. Menu models. Public policy models. Optimal taxation.
    Readings: Caplin and Leahy (2006); Dekel and Lipman (2012); Gul and Pesendorfer (2001) and Kydland and Prescott (1980)

13. **Time consistency 2**. Menu models. Public policy models. Optimal taxation.
Readings: Caplin and Leahy (2006); Dekel and Lipman (2012); Gul and Pesendorfer (2001) and Kydland and Prescott (1980)

14. **Comparative statics**. Introduction to posets and lattices. (Quasi)-supermodularity and (single crossing) increasing differences. Strong set order and internal dominance order. Theorems of Topkis, Milgrom/Schannon, Veinott and Quah. Tarski's fixed point theorem.
Readings: Topkis (1998).

15. **Comparative statics in applications**. Monopoly, supermodular games, Bertrand competition, consumer choice, choice under uncertainty.
Readings: Vives (2000)

16. **Class presentations 1, 2**

17. **Class presentations 3, 4**

The **exam** is based on topics and problems discussed during the course and posted on the web pages of the instructors. The **homework** list (4 in total) will be posted consecutively on the web. It is your responsibility to get it from there. Homework is due in class on the due date. Remember that homework is the most valuable part of the course. Always write correct English with complete sentences. You may talk about the problems with other students, but you must write up your own solutions in your own words.

You should prepare a **class presentation** in pairs on one of the topics. Specifically we ask you to read in details one/two papers that we will choose and your aim is to explain it to the students. The topics are:

1. time consistency
2. costly self control
3. applications of monotone comparative statics
4. behavioral contract theory
5. auctions
6. applications of risk/uncertainty/ambiguity in decision making
7. behavioral aspects of game theory

Please choose your partner and your topic as soon as possible and we will provide you with the paper to present.

We welcome questions at any time. Please don't hesitate to ask us during class if there is something that you don't understand or that you want to discuss. (The only exception is a question about the grading of your homework or exam paper. Please ask these questions before or after class, or in office hours.) You may also ask questions in office hours, or any other time that you catch us in my office. You may also ask questions by email.

While studying you may find useful to use various scientific paper browsers like e.g.: `econpapers.repec.org`, `ideas.repec.org` and `scholar.google.com`; article databases, e.g. `www.jstor.org`, `www.sciencedirect.com` and `www.nber.org`.

We invite all interested in economic theory to participate in **Warsaw Economic Seminar** (`sites.google.com/site/warsaweconseminars/`).

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