

[illegible]

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Topics covered

(GTB = Game Theory Book, URI = Uncertainty, Risk and Information book)

1. **Strategic-form games with ordinal payoffs.** Frames and games, dominance, Nash equilibrium.
Reading: Chapter 2 of GTB.
Practice problems: all the practice problems in Chapter 2 of GTB.
2. **Applications to imperfect competition.** Cournot oligopoly. Perfect competition as a limit case. Bertrand's paradox. Hotelling's model of product differentiation. Cournot competition compared to Bertrand competition when products are differentiated.
Reading: The following files on the web page: Cournot.pdf, toomany.pdf, Hotelling.pdf.
(Optional additional reading: Mas-Colell *et al*, Chapter 12, pp. 387-400.)
Practice problems on the web page: practice_7.pdf, practice_8.pdf.
3. **Dynamic games with ordinal payoffs: (1) Perfect information.** Perfect-information games. Strategies. Backward induction. Applications to imperfect competition (Stackelberg games).
Reading: Chapter 3 of GTB.
Practice problems: all the practice problems in Chapter 3 of GTB.
4. **Dynamic games with ordinal payoffs: (2) Imperfect information.** Subgame perfect equilibrium. Applications to imperfect competition: endogenous product differentiation, Hotelling's mistake, strategic entry deterrence.
Reading: Chapter 4 of GTB. (Optional reading: Mas-Colell *et al*, Chapter 12, pp. 414-417).
Practice problems on the web page: practice_11.pdf.
5. **Expected utility theory. Games with cardinal payoffs.** Mixed-strategy Nash equilibria, behavioral strategies in extensive-form games, subgame-perfect equilibrium revisited.
Reading: Chapters 5, 6 and 7 of GTB.
Practice problems: all the practice problems in Chapters 5, 6 and 7 of GTB.
6. **Insurance.** The demand for, and the supply of, insurance.
Reading: Chapters 2 and 5 of URI.
Practice problems: all the practice problems in Chapters 2, 4 and 5 of EUIB.
7. **Asymmetric information.** Adverse selection.
Reading: Chapters 7 and 8 of URI.
Practice problems: practice problems in Chapters 7 and 8 of EUIB.
8. **Signaling. Price discrimination through bundling.**
Reading: Chapter 9 of URI and the following file on the web page: 2nd_degree.pdf.
Practice problems: practice problems in Chapter 9 of URI and on the web page: practice_17.pdf.
9. **Games with incomplete information.**
Reading: Chapters 14 and 15 of GTB.
Practice problems: all the practice problems in Chapters 14 and 15 of GTB.
10. **Weak sequential equilibrium.**
Reading: Chapter 11 of GTB.
Practice problems: all the practice problems in Chapter 11 of GTB.