

UNIVERSITY OF HAWAII AT MANOA
DEPARTMENT OF ECONOMICS

Microeconomics III
Econ 620
Fall Semester, 2006

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Preliminaries This course is research oriented. It gives a rigorous review, based on the current literature, of the economics of strategic behavior, informational economics, principal-agent theory, bargaining theory, and economic design. These areas are central to modern research in microeconomic theory and its applications. Applications include the theory of contracts; incentive compatible mechanisms for provision of public goods; bargaining; auction theory and others. Coverage may vary depending on students' research interests. Active student participation, including class presentations, is essential.

Assessment Assessment in this class may include problem sets and exam; class presentations and participation; and research proposal on a topic related to the class. The proposal should include the statement of the problem, literature review, and the proposed model (or experimental design). It should not exceed 20 pages. While reading papers for the class, think of ways to extend or improve them, or apply their results to problems in applied economics. This could lead you to a good research idea.

Recommended reading Given the research orientation, the amount of reading for the course will be substantial. Mas-Colell, Whinston and Green (MWG), 1995 is the main textbook for the course. The other texts are additional:

Mas-Colell, Andreu, M. Whinston, and J. Green. 1995. **Microeconomic theory**.

Fudenberg, Drew, and J. Tirole. 1992. **Game Theory**. The MIT Press.

Laffont, Jean-Jacques. 1989. **The Economics of Uncertainty and Information**. The MIT Press. Chapters 1-4, 10-11.

Salanie, Bernard. 1997. **The economics of contracts**. MIT Press.

Varian, Hal. 1992. **Microeconomic analysis**, 3rd edition.

Kreps, David. 1990. **A Course in Microeconomic Theory**. Princeton University Press. Chapters 16-18.

In addition, selected journal articles and research papers will be required for reading.

TENTATIVE SYLLABUS

1: Introduction. Economics of information and incentives.

Myerson, Roger. 1989. **Mechanism Design.** In Eatwell, J., M. Milgate and P. Newman (eds.), *Allocation, Information and Markets*. London, MacMillan.

2: Preliminaries. Decision-making under uncertainty. Review of game theory. Bayes Nash Equilibrium. Beliefs and sequential rationality.

MWG, Chapters 6, 8E, 9C.

Laffont, 1989. Chapters 1-4.

(Varian, Chapters 11, 15.)

Gibbons, R. 1992. *Game Theory for Applied Economists*.

3: Market failure with asymmetric information. Akerlof's market for lemons. Signaling and screening.

MWG, 13; Kreps, 17; Varian, 25.9-25.11. (Salanie, 4.)

Akerlof, G. 1970. The market for lemons: Qualitative uncertainty and the market mechanism, *Quarterly Journal of Economics* 84: 488-500.

Spence, M. 1973. Job market signaling, *Quarterly Journal of Economics* 87: 355-74.

Rothschild and Stiglitz, 1976. "Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information." *Quarterly Journal of Economics* 90: 629-649.

4a: Principal-agent problems: Hidden action. The first order approach and its validity. Application: managerial incentives and employee compensations.

MWG, 14.A-14.B; Varian, 25.1-25.5; Kreps, 16. (Salanie, 5.1-5.3.4.)

Laffont, 1989, 11.1-11.2.

Hart, Oliver, and Bengt Holmstrom. 1987. *The Theory of Contracts*. In Bewley, Truman (ed.), *Advances in Economic Theory: Fifth World Congress*. Cambridge University Press.

Holmstrom, 1979. "Moral Hazard and Observability." *Bell Journal of Economics* 10: 74-91.

Grossman and Hart, 1983. "An Analysis of the Principal-Agent Problem." *Econometrica* 51: 7-54.

Rogerson, 1985. "The First-Order Approach to Principal-Agent Problems." *Econometrica* 53: 1357-1368.

4b: Hidden action with multiple agents Relative performance evaluation. Rank-order tournaments. Moral hazard in teams.

Laffont, 1989, 11.3-11.5.

Salanie, 15.3.5-15.4, 6.5.

Mookherjee, 1984. "Optimal Incentive Schemes with Many Agents." *Review of Economic Studies* 51: 433-446.

Lazear and Rosen, 1981. "Rank-Order Tournaments as Optimal Labor Contracts." *Journal of Political Economy* 89: 841-864.

Green and Stokey, 1983. "A Comparison of Tournaments and Contracts." *Journal of Political Economy* 91: 349-64.

Nalebuff and Stiglitz, 1983. "Prizes and Incentives: Towards a General Theory of Compensation and Competition." *Bell Journal of Economics* 14: 21-43.

Holmstrom, 1982. "Moral Hazard in Teams." *Bell Journal of Economics* 13: 324-40.

4c: Repeated contracts and career concerns.

Rubinstein and Yaari, 1983. "Repeated Insurance Contracts and Moral Hazard." *Journal of Economic Theory* 30 no 1: 74-97.

Rogerson, W., 1985. "Repeated Moral Hazard." *Econometrica* 53: 69-76.

4d: Hidden information General formulation. Applications: Insurance markets. Regulating a monopolist with an unknown cost.

MWG, 14.C; Varian, 25.6-25.8; Kreps, 16-17.

Laffont, (1989), chapter 10.

Fudenberg, Tirole. 1991. Chapter 7.

Salanie, chapters 2-3.

Baron, D., and R. Myerson, 1982. "Regulating a monopolist with unknown costs." *Econometrica* 50: 911-30.

4e: Generalized Principal-Agent models Linear contracts and multi-tasking.

MWG 14.D; Kreps, chapter 18.

Laffont, 1994. "The New Economics of Regulation Ten Years After." *Econometrica* 62: 507-537.

Holmstrom and Milgrom, 1987. "Aggregation and Linearity in the Provision of Intertemporal Incentives." *Econometrica* 55: 303-328.

Holmstrom and Milgrom, 1991. "Multitask Principal-Agent Analyses: Incentive Contracts, Asset Ownership and Job Design." *Journal of Law, Economics and Organization* 1991, 7, Special Issue, 24-52.

McAfee and McMillan, 1991. "Optimal Contracts for Teams." *International Economic Review* 32: 561-577.

McAfee and McMillan, 1987. "Competition for Agency Contracts." *Rand Journal of Economics* 18: 296-307.

Laffont, Tirole. "Auctioning Incentive Contracts."

Bardsley and Sherstyuk. "Rat Races and Glass Ceilings."

5: Social Choice Theory. Arrow's Impossibility Theorem.

MWG Ch. 21

Arrow, Social Choice and Individual Values, Yale, 1951.

6: Bargaining. Optimal 2-person bargaining. Bargaining with incomplete information. Axiomatic Bargaining approach.

MWG Ch. 9 (Appendix A); 22.

Myerson, Satterthwaite, 1993. "Efficient Mechanisms for Bilateral Trading." *Journal of Economic Theory* 29, 265-281.

Cramton, Gibbons and Klemperer, 1987. "Dissolving a partnership efficiently." *Econometrica* 55 No 3, 615-632.

7a. Mechanism design: general formulation.

MWG 23.A-23.B.

Fudenberg and Tirole. 1991. Chapter 7.

Myerson, 1989.

Holmstrom, B., and R. Myerson. 1983. "Efficient and Durable Decision Rules with Incomplete Information." *Econometrica* 51, 1799-1819.

7b: Dominant Strategy and Nash Implementation Vickrey auctions. Groves mechanisms for provision of public goods. Nash mechanisms: Groves-Ledyard.

MWG 23.C; (Varian 23.8, 23.9; Kreps 18.3, 18.4)

Vickrey, W. 1971. "Counterspeculations, auctions, and competitive sealed tenders." *Journal of Finance* 16: 8-37.

J. Green and J.-J. Laffont. 1977. "Characterization of Satisfactory Mechanisms for the Revelation of Preferences for Public Goods", *Econometrica*, 45:427-38.

Groves, T. 1973. "Incentives in Teams." *Econometrica* 41: 617-31.

T. Groves and J. Ledyard. 1977. "Optimal Allocation of Public Goods: A Solution to the Free Rider Problem", *Econometrica*, 45:783-809.

T. Groves and J. Ledyard. 1977. "Some Limitations of Demand Revealing Processes", *Public Choice*, 29/II:107-43. (Includes commentaries)

7c: Bayesian Mechanism Design.

MWG 23.D-F.

Myerson, 1981. "Optimal Auction Design." *Mathematics of Operations Research* 6: 58-73.

d'Aspremont and Gerard-Varet. "1979. Incentives and Incomplete Information." *Journal of Public Economics* 11: 25-45.

8: More on Public Goods Cost-Sharing Mechanisms. Experimental evidence.

H. Moulin. 1994. "Serial Cost Sharing of Excludable Public Goods", *Review of Economic Studies*, 61:305-25.

Y. Chen. 1998. "Incentive Compatible Mechanisms for Pure Public Goods: A Survey of Experimental Research". In: C. Plott and V. Smith (eds.), *The Handbook of Experimental Economics Results, Volume 1*, Amsterdam: Elsevier Press, forthcoming.

9: More on Auctions Multiple objects. Ascending auctions. Collusion.

Harris and Raviv. 1979. "Optimal Incentive Contracts with Imperfect Information." *Journal of Economic Theory* 20: 231-259.

Maskin and Riley, 1984. "Optimal Auctions with Risk-Averse Buyers." *Econometrica* 52: 1473-1518.

Milgrom and Weber, 1982. "A Theory of Auctions and Competitive Bidding." *Econometrica* 50: 1089-1122.

Ausubel, L. 2004. "An Efficient Ascending-Bid Auction for Multiple Goods." *The American Economic Review* 94(5): 1452-1475.

Brusco, S., and G. Lopomo, 2002, Collusion via signaling in simultaneous ascending bid auctions with heterogeneous objects, with and without complementarities. *Review of Economic Studies*, 69(2), 407-436.

Kwasnica and Sherstyuk. Collusion and equilibrium selection in auctions, with Anthony Kwasnica, *The Economic Journal*, forthcoming.