

Week 5 October 2: Production, profit maximization and cost minimization. Profit functions, cost functions and factor demands. Wage-profit rate relations in Classical economic theory. V 5, 6, 26, 27

Week 6 October 9: Utility maximization and the theory of household choice. Duality in consumer theory. Utility maximization and expenditure minimization. Walrasian and Hicksian demand functions. V 7,8.

Week 7 October 16: Consumers' surplus. Aggregating demand functions. Econometric issues in demand theory. Utility theory and index numbers. V 9, 10, 12. *Problem Set 2 Due*

Week 8 October 23: General equilibrium and welfare economics. V 17, 18.

Week 9 October 30: General equilibrium: existence, uniqueness, and stability. V 20, 21. *Examination 1 Due*

Week 10 November 6: Time and Uncertainty V 11, 19, 20.

Week 11 November 13: Thermodynamics and general equilibrium theory. (Smith and Foley, Foley) *Problem Set 3 Due*

Week 12 November 20: Game Theory Mark I: von Neumann-Morgenstern. Dominant strategies, elimination of dominated strategies. Zero-sum games. Minimax theorem. Black-Scholes, arbitrage, and beating the market. V 15.

Week 13 November 27: Game Theory Mark II: Nash Equilibrium and refinements. *Problem Set 4 Due*

Week 14 December 4: Game Theory Mark III Evolutionary game theory. Automata. Computational Issues in Economic Theory *Problem Set 5 Due*

Week 15 December 11: Review

Week 16: December 18 *In-class Final Examination*

McKenzie, Lionel, "Demand theory without a utility index", *Review of economic studies*, 24(1957): 183-9.

Hurwicz, Leonid and Hirofumi Uzawa, "On the integrability of demand functions", in Chipman, Hurwicz, Richter, and Sonnenschein, editors, *Preferences, utility, and demand*, 1971, New York: Harcourt, Brace, Jovanovich.

7. Aggregation over consumers, econometrics, index numbers

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Mantel, Rolf, "On the characterization of aggregate excess demand", *Journal of economic theory* 7(1974):348-353.

Sonnenschein, Hugo, "Market excess demand functions", *Econometrica*, 40(1974):549-563.

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8. General equilibrium and welfare economics

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Debreu, Gerard, and Herbert Scarf, "A limit theorem on the core of an economy", *International economic review* 4 (1963): 235-246.

9. Existence, uniqueness, and stability of general equilibrium

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McKenzie, Lionel "On equilibrium in Graham's model of world trade and other competitive systems", *Econometrica*, 22(1954): 147-161.

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uniqueness

Arrow and Hahn, chapter 9.

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Dierker, E. (1972) "Two remarks on the number of equilibria of an economy", *Econometrica*, 40 (1972): 951-953.

stability

Scarf, Herbert, "Some examples of global instability of the competitive equilibrium", *International Economic Review*, 1(1960): 157-172.

Hahn, Frank and Takashi Negishi, "A theorem on non-tatonnement stability", *Econometrica* 30(1962) 463-469.

Arrow, Kenneth and Leonid Hurwicz, "On the stability of competitive equilibrium", *Econometrica* 26(1958): 522-552.

Negishi, Takashi, "The stability of a competitive economy: A survey", *Econometrica* 30 (1962) 635-669.

Taylor and Jonker, "Evolutionarily stable strategies and game dynamics", *Mathematical biosciences*, 40 (1978) 145-56.

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14. Thermodynamics and Economics

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