Professor Thomas A. Gresik

Industrial Organization

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Course Description

The purpose of this course is study the basic theories of firm behavior in monopoly and oligopoly markets and government policies in imperfectly competitive markets.

Reading material

The main texts for this course are Jean Tirole's *The Theory of Industrial Organization*, MIT Press, 1988 *and Oligopoly Pricing: Old Ideas and New Tools* by Xavier Vives, MIT Press, 2001.
Another good resource is *The Handbook of Industrial Organization* published by Elsevier.
Most of the material covered in class will be based on journal articles listed below. A good source for basic game theory tools is *Microeconomic Theory by* Mas-Collel, Whinston, and Green.

Grading

Your semester grade will be based upon class preparation and participation, one in class presentation, homework assignments, and an optional survey paper. If you intend to write a second-year paper or a dissertation in IO, you must write a survey paper. Students who do not submit a satisfactory survey paper will not receive a grade higher than a B+.

In-class Presentation:

Each student will be expected to present in class one paper from among the starred papers in the syllabus. There are 10 such papers so you have some choice. No two students can present the same paper. To avoid duplicate choices, please submit your first two choices to me no later than Friday, September 5. Presentations will be scheduled based on when the related topics are covered in class. For paper I.1, an appropriate presentation date will be determined.

Survey paper:

The purpose of this paper is to have you explore a particular topic within the IO literature in detail. The topic you choose need not come from this semester's topics. The final section of the paper should include a proposal for extending or generalizing the current work or addressing an issue upon which the literature has not yet focused. The paper must be doublespaced, be written in a 12-pt font with 1 inch margins, and be approximately 15 to 20 pages in length.

Collaboration:

Collaboration is an important activity in the economics profession. In graduate field classes, it is also a very good way to master material. In terms of class assignments, you may discuss homework assignments with other people in the class. However, you must write up your answers by yourself.

Course Web Page

The course web page can be found at www.nd.edu/~tgresik/

Detailed syllabus

Bold readings will be covered in class. Students are expected to have read these papers before they are discussed in class. * readings are papers I would like a student to present in class.

<u>A. Monopoly</u>

1. Tirole - Chapters 1 and 3

2. Stokey, N., 1981, Rational expectations and durable goods pricing, *Bell Journal of Economics* 12:112-128.

3. Bulow, J., 1982, Durable goods monopolists, *Journal of Political Economy* 15:261-278.

4. Ausubel, L. and R. Deneckere, 1987, One is almost enough for monopoly, *Rand Journal of Economics* 18:255-274

5. Ausubel, L. and R. Deneckere, 1989, Reputation in bargaining and durable goods monopoly, *Econometrica* 57:511-531.

6. Ausubel, L. and R. Deneckere, 1992, Durable goods monopoly with incomplete information, *Review of Economic Studies* 59:795-812.

*7. McAfee, R. and T. Wiseman, 2008, Capacity choice counters the Coase conjecture, *Review of Economic Studies* 75:317-332.

*8. Deneckere, R. and M. Liang, 2008, Imperfect durability and the Coase conjecture, *RAND Journal of Economics* 39:1-19.

<u>B. Agency</u>

1. MWG - Chapter 14

2. Baron, D. and R. Myerson, 1982, Regulating a monopolist with unknown costs, *Econometrica* 50:911-930.

3. Baron, D., 1989, Design of regulatory mechanisms and institutions, in *Handbook of Industrial Organization*, v.2, pp.1347-1447.

4. Laffont, J. and J. Tirole, 1996, *A Theory of Incentives in Procurement and Regulation*, MIT.

5. Mookherjee, D. and M. Tsumagari, 2004, The organization of supplier networks: Effects of delegation and intermediation, *Econometrica* 72: 1179-1220.

6. Blackorby, C. and D. Szalay, 2008, Regulating a monopolist with unknown costs and unknown quality capacity, mimeo.

7. Crocker, K. and J. Slemrod, 2007, The economics of earnings manipulation and managerial compensation, *RAND Journal of Economics* 38:698-713.

*8. Marx, L.M. and G. Shaffer, 2007, Upfront payments and exclusion in downstream markets, *RAND Journal of Economics* 38:823-843.

*9. Berkovitch, E., R. Israel, and Y. Spiegel, 2007, A double moral hazard model of organization design, mimeo.

10. Myerson, R., 2007, Perspectives on mechanism design in economic theory, Nobel Prize address, http://home.uchicago.edu/~rmyerson.

<u>C. "Static" Oligopoly Models - Bertrand, Cournot, and Edgeworth models</u>

1. Tirole - Chapter 5

2. Vives - Chapters 4 and 5

3. Maskin, E., 1986, The existence of equilibrium with price-setting firms, *American Economic Review: Papers and Proceedings* 76:382-386.

4. Dasgupta, P. and E. Maskin, 1986, The existence of equilibrium in discontinuous economic games, I: Theory, *Review of Economic Studies* 53:1-26.

5. Dasgupta, P. and E. Maskin, 1986, The existence of equilibrium in discontinuous economic games, I: Applications, *Review of Economic Studies* 53:27-41.
6. Boyer, M. and M. Moreaux, 1989, Endogenous rationing in a differentiated product duopoly, *International Economic Review* 30:877-888.
7. Klemperer, P. and M. Meyer, 1989, Supply function equilibria in oligopoly under uncertainty, *Econometrica* 57:1243-1277.
8. Spulber, D., 1995, Bertrand competition when rivals' costs are unknown, *Journal of Industrial Economics* 43:1-11.
9. Amir, R., 1996, Cournot oligopoly and the theory of supermodular games, *Games and Economic Behavior* 15:132-148.
10. Maggi, G., 1996, Strategic trade policies with endogenous mode of competition, *American Economic Review* 86:237-58
11. Maggi, G., 1996, Endogenous leadership in a new market, *Rand Journal of Economics* 27:641-59.
*12. Stole, L., 2007, Price Discrimination and Competition, in *Handbook of Industrial Organization*, v.3, pp. 2221-2299. (Emphasize section 3, see also paper G.5 below)
13. Daughety, A. and J. Reinganum, 2008, Imperfect competition and quality signalling, *RAND Journal of Economics* 39:163-183.

D. Entry and Exit
1. Tirole - Chapters 8 and 9
2. Dixit, A., 1980, The role of investment in entry deterrence, *Economic Journal* 90:95-106.
3. Milgrom, P. and J. Roberts, 1982, Limit pricing and entry under incomplete information, *Econometrica* 50:43-459.
4. Milgrom, P. and J. Roberts, 1982, Predation, reputation, and entry deterrence, *Journal of Economic Theory* 27:280-312.
5. Judd, K., 1985, Credible spatial preemption, *Rand Journal of Economics* 16:153-166.
*6. Baye, M., K. Crocker, and J. Ju, 1996, Divisionalization, franchising, and divestiture incentives in oligopoly, *American Economic Review* 86:223-236.
*7. Amir, R. and V. Lambson, 2000, On the effects of entry in Cournot markets, *Review of Economic Studies* 67:235-254.
8. Bagwell, K., 2007, Signalling and entry deterrence: A multi-dimensional analysis, *RAND Journal of Economics* 38:670-697.

E. Dynamic Oligopoly
1. Tirole - Chapter 6
2. Vives - Chapter 9
3. Kreps, D. and J. Scheinkman, 1983, Quantity pre-commitment and Bertrand competition yield Cournot outcomes, *Bell Journal of Economics* 14:326-337.
4. Davidson, C. and R. Deneckere, 1986, Long-run competition in capacity, shortrun competition in price and the Cournot model, *Rand Journal of Economics* 17:404-415.
5. Bulow, J., J. Geanakoplos, and P. Klemperer, 1985, Multimarket oligopoly: strategic substitutes and complements, *Journal of Political Economy* 93:488-511.
6. Fudenberg, D. and J. Tirole, 1984, The fat cat effect, the puppy dog ploy and the lean and hungry look, *American Economic Review: Papers and Proceedings* 74:361-368.
7. Abreu, D., 1986, Extremal equilibria of oligopolistic supergames, *Journal of Economic Theory* 39:191-225.
8. Green, E. and R. Porter, 1984, Non-cooperative collusion under imperfect price competition, *Econometrica* 52:87-100.

9. Abreu, D., D. Pearce, and E. Stacchetti, 1986, Optimal cartel equilibria with imperfect monitoring, *Journal of Economic Theory* 39:251-269.
10. Maskin, E. and J. Tirole, 1988, A theory of dynamic oligopoly I: Overview and quantity competition with large fixed costs, *Econometrica* 56:549-570.
11. Maskin, E. and J. Tirole, 1988, A theory of dynamic oligopoly II: Price competition, kinked demand curves and Edgeworth cycles, *Econometrica* 56:571-600.
12. Benoît, J-P. and V. Krishna, 1991, Entry deterrence and dynamic competition, *International Journal of Industrial Organization* 9:477-495.
13. Spencer, B. and J. Brander, 1992, Pre-commitment and flexibility: Applications to oligopoly theory, *European Economic Review* 36:1601-1626.
*14. Fershtman, C. and A. Pakes, 2000, A dynamic oligopoly with collusion and price wars, *RAND Journal of Economics* 31:207-236.
15. Bergin, J. and D. Bernhardt, 2008, Industry dynamics with stochastic demand, RAND Journal of Economics* 39:41-68.
16. Ericson, R. and Pakes, A., 1995, Markov-perfect industry dynamics: A framework for empirical work', *Review of Economic Studies* 62:53-82.
17. Besanko, D. and Doraszelski, U., 2004, Capacity dynamics and endogenous asymmetries in firm size, *Rand Journal of Economics* 35:23-49.
18. Dorazelski, U. and M. Satterthwaite, 2007, Computable markov-perfect industry dynamics: Existence, purification, and multiplicity, mimeo, http://www.economics.harvard.edu/faculty/doraszelski/files/existence.pdf.
19. Dorazelski, U. and J. Escobar, 2008, A theory of regular markov perfect equilibria in dynamic stochastic games: Genericity, stability, and purification, mimeo.

F. Multinationals
Tba

Other topics
G. Common Agency
1. Fershtman, C. and K. Judd, 1987, Equilibrium incentives in oligopoly, *American Economic Review* 77:927-940.
2. Stole, L., 1995, Non-linear pricing and oligopoly, *Journal of Economics and Management Science* 4:529-562.
3. Martimort, D., 1996, Exclusive dealing, common agency, and multiprincipals theory, *RAND Journal of Economics* 27:1-31.
4. Laffont, J-J. and D. Martimort, 1998, Collusion and delegation, *Rand Journal of Economics* 29:280-305.
5. Gal-Or, E., 1999, Vertical integration or separation of the sales function as implied by competition forces, *International Journal of Industrial Organization* 17:641-62.
6. Peters, M., 2002, Common agency and the revelation principle, *Econometrica* 69:1349-1372.

H. Incomplete Contracting
1. Hart, O. and J. Moore, 1988, Incomplete contracts and renegotiation*, Econometrica* 56:755-785.
2. Hart, O. and J. Moore, 1999, Foundations of incomplete contracts, *Review of Economic Studies* 66:115-138.
3. Maskin, E. and J. Tirole, 1999, Unforeseen contingencies and incomplete contracts, *Review of Economic Studies* 66:83-114.
4. Tirole, J., 1999, Incomplete contracts: Where do we stand?, *Econometrica* 67:741-782.

5. Che, Y-K. and D. Hausch, 1999, Cooperative investments and the value of contracting, *American Economic Review* 89:125-147.
6. Chiu, S., 1998, Noncooperative bargaining, hostages, and optimal asset ownership, *American Economic Review* 88:886-901.

I. Two-sided markets
*1. Armstrong, M. and J. Wright, 2007, Two-sided markets, competitive bottlenecks and exclusive contracts, *Economic Theory* 32:353-380.
2. Spulber, D., 2007, Consumer coordination in the small and in the large: implications for antitrust in markets with network effects, *Journal of Competition Law and Economics* 4:207-262.

J. Auctions
1. Krishna, V., 2002, *Auction Theory*, Academic Press.
2. Klemperer, P., 2004, *Auctions: Theory and Practice*, Princeton.
3. Klemperer, P., 2005, Competition policy in auctions and "bidding markets", in *Handbook of Antitrust Economics.*

K. Partnerships
1. de Frutos, M. and T. Kittsteiner, 2008, Efficient partnership dissolution under buy-sell clauses, *RAND Journal of Economics* 39:184-198.