

Dartmouth College, Department of Economics

Course Information: Economics 81 - Advanced Topics in Microeconomics: The Economics of Information (Spring 2006)

Class Meetings: Rockefeller 208 (Frank Smallwood Seminar Room)
10 -11:05
[x-hour: Thur 12-12:50]

Prerequisites: A- or better in the following three completed courses Economics 20, 21, 22; Mathematics 8
This course is limited to a number of 15 students.

Course Description:

Economics 81 is an advanced course covering the economics of information, (contract-theory) with topics of adverse selection, hidden information, and moral hazard. The course focuses on the theoretical tools that are used to analyze problems in the fields of organization theory, of regulation, public procurement, the theory of the managerial firm, labor markets, corporate finance, and insurance.

Reading:

Textbook: J.-J. Laffont and David Martimort (2002) The Theory of Incentives: The Principal-Agent Model, Princeton, Princeton University Press. Paperback ISBN 0-691-09184-6. [Chapters are denoted by LM Ch.# in the outline below.] The textbook is on Baker Berry Reserve. I will add other sources to the reserve list, such as:

- Bolton, P., Dewatripont, M. (2005) Contract Theory, Cambridge, MA, MIT Press, and

- Salanié, B. (2006) The Economics of Contracts: A Primer, Cambridge, MA, MIT Press, 2nd edition

Lars Stole's (2001) Lectures on the Theory of Contracts and Organizations is available as pdf file (check stole.pdf on the course page)

Course Page: Supplementary material, slides, handouts, exams, problems and solutions to problems etc. can be found on the course page <http://www.dartmouth.edu/~econ81wg>

Course Grading: There will be two midterm exams (April 19 and May 17) and a final exam during the first days of June. Each midterm exam counts for 25% of the grade, the final for 30%. The remaining 20% are based on class

participation and solutions to six problem sets, including a grade mark for possible presentations in class.

Problem Sets and Study Group: Bibek Dhital will be leading a study group during this term. Although study groups are unusual for advanced courses, it has shown to be a real advantage to have it, both from a motivation perspective and as a sort of check for unsecurities that some students are less willing to discuss in class than others. To coordinate the handling of problem sets for the participants of the study group, the problem sets will be posted on the web every weekend before presentation, and the solutions are due in class every Wednesday. Suggested answers will be posted on the web after presentation in class.

Problem Set 1: Due 4/12

[4/19: Midterm exam]

Problem Set 2: Due 5/1

Problem Set 3: Due 5/8

Problem Set 4: Due 5/15

[5/17: Midterm exam]

Problem Set 5: Due 5/24

Problem Set 6: Due 5/31.

Honor Principle: Work on examinations must be the student's own, without assistance from others or from notes or texts. You may work together on the problem sets prepared for class, but each student should be prepared to present the solutions to the problem sets individually in class.

Disabilities: Students with any kind of certified disabilities should contact me after class or during office hours. Please do so before April 15, 2005.

Course Outline: (subject to change)

Intro: Wed 3/29 Institutional Economics, Implementation, and Contracts: What the Economics of Information tells about institutions and incentives. Contracts and the Contracting Game. (LM 2.1-2.6.3)

No Class on Friday, 3/31.

Lecture 2: Mon 4/3 Comments on 2.6.3 and the Optimal Contract, Direct Revelation Mechanism and the Proof of the Revelation Principle (2.9), Nonresponsiveness and Common Values (2.10.2)

- Lecture 3: Wed 4/5 General Utility Function of the Agent (2.10.1), Spence-Mirrlees Property, Ex-ante Contracting (LM 2.11).
- Lecture 4: Fri 4/7 Ex-ante Participation Constraints: Risk Neutrality and Risk Aversion (LM Ch 2.11, part 2)
- Lecture 5: Mon 4/10 Adverse Selection: Contracts with more than two types (LM Ch 3.1), Part I
- Lecture 6: Wed 4/12 Adverse Selection: Contracts with more than two types (LM Ch 3.1), Part I
- Lecture 7: Fri 4/14 Type-Dependent Participation Constraints and Countervailing Incentives (LM Ch 3.3)
- Lecture 8: Mon 4/17 Limited Liability (LM Ch 3.5): Case 1
- Review Session TBA.

Midterm Exam Wed 4/19

- Lecture 9: Fri 4/21 Audit Mechanisms and Costly State Verification (LM Ch 3.6)
- No Class on Monday, 4/24.
- Lecture 10: Wed 4/26 Type-Dependent Participation Constraints and Countervailing Incentives: Application (Jeon/Laffont)
- Lecture 11: Fri 4/28 The Informed Principal Problem (LM 9.1)
- Lecture 12: Mon 5/1 Ex-ante Contracting and Limited Liability: Case B under limited liability on transfers
- Lecture 13: Wed 5/3 Moral Hazard: General Setup under Complete Information: Risk Neutrality and First-Best Implementation (LM Ch 4.2)
- Groups: Thur, 5/4 Group 1: Intermediated Contracting (base model)
Group 2: Outside Financing Capacity: Fixed Investment Model
- Fri 5/5 No Class

Lecture 14: Mon 5/8 Moral Hazard: Rent Extraction versus Efficiency –
The Trade-Off Under Risk Neutrality (LM Ch 4.3),
Insurance versus Efficiency (LM Ch 4.4)

Lecture 15: Wed 5/10 Moral Hazard: Extensions

Groups: Thur, 5/11 Group 1: Auditing under delegated contracting
Group 2: Fixed Investment Model: Exercises

Lecture 16: Fri 5/12 Moral Hazard: Extensions

Lecture 17: Mon 5/15 Review Session

Midterm Exam Wed 5/17

Groups: Thur, 5/18 Group 1: Collusion and Supervision
Group 2: Asymmetric Information: Leland and Pyle

Lecture 18: Fri 5/19 Kuhn-Tucker conditions, complementary slackness
conditions and Case B of Limited Liability on Rents

Lecture 19: Mon 5/22 Insurance Contracts Under Monopoly
(Rothschild/Stiglitz)

Lecture 22: Wed 5/24 Multidimensional asymmetric information (may be
substituted)

Groups: Thur, 5/25 Group 1: Endogenous information structures (LM
9.8) and application
Group 2: Asymmetric Information: Leland and Pyle

Lecture 23: Fri 5/26 Dynamic Adverse Selection (2-period model)

No Class on Monday, 5/29 (Memorial Day).

Lecture 24: Wed, May 31. Topic: TBA.

Review Session TBA, during pre-exam period

Final Exam TBA.

Instructor: Wolfgang Gick, Rockefeller 313 (office hours: MW 3-4:30), ph.
646-0641.