Department of Economics and Finance

ECON*4710
Advanced Topics in Microeconomics
Fall 2013

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Office Hours (tentative): Mondays and Wednesdays 1:00 to 3:00 (or by arrangement)

E-mail: mhoy@uoguelph.ca (**NOTE:** You **MUST** include the course number or name in the subject heading of any e-mail you send me or I may inadvertently delete it without opening it.)

It is your responsibility as a student to be aware of and to abide by the University's policies regarding academic misconduct, e-mail communication, maintaining copies of out-of class assignments, what to do when you cannot meet a course requirement and the drop date for this semester. To better understand these policies, visit:

http://www.uoguelph.ca/economics/node/1115

Course Outline

Course Description:

Much of the microeconomics you have studied to date has dealt with *standard* market transactions that generally involve the study of the production (cost) and sale (price) of some product or service. Such transactions involve profits for firms and utility for consumers. In this course I hope you will learn that microeconomics has a much broader scope and substantially more power in providing an understanding of various relationships among economic and social agents. Although to date the definition of economics as "the study of the allocation of resources" has probably been quite adequate, for this course the emphasis is on "the study of incentives".

You can imagine that "the study of incentives" can be very broad indeed. In fact, my principle concern with setting up a course outline and schedule of study (readings, assignments, examinations, essays) is to provide you with the appropriate incentive to learn how to apply certain economic concepts and principles. The study of incentives can be used to help understand peoples choices concerning a very broad range of phenomena, such as an individual's choice of how much care to take in driving, a firm's choice of technology, an investor's choice of financial portfolio, a young person's educational choice, a person's or a couple's choice of how many children to have.

The setting for our analysis will be an environment of uncertainty with a particular

concern with information one can obtain and make use of and also with relationships when one person (or group of persons) has more information about certain aspects of the environment than does another. A simple example of such a setting is the relationship between an automobile insurance company and its customers. Accidents occur in an environment of uncertainty and insured drivers know how carefully they drive better than does the insurance company. Thus, the company wishes to design insurance contracts which provide appropriate incentives to its customers to drive with an appropriate level of care. One way of doing this is to offer only partial insurance (i.e., include a deductible) and to use a bonus malus system (i.e., a penalty on future premiums for those persons who do have an accident) so that drivers will have an incentive to drive with more care than they otherwise might. The insurance company also wishes to design a menu of contracts, depending on age, sex, driving experience, type of car, etc., which indirectly provide information on which drivers are more or less inherently careful or skillful in their driving habits.

By taking this course you should achieve a better understanding of various observed institutional arrangements in both the private and public sectors, including such items as terms of private contracts and government regulations. Moreover, you will also develop further your ability to construct economic models in order to understand various real world phenomena, which are not covered in this course, involving economic situations where uncertainty and informational problems are important elements. The study of the area of uncertainty and information has become one of the most important in economics over the past thirty years due to its many fruitful applications. I hope you will obtain an appreciation of these developments. For those of you intending to go on to graduate school, this is a very important objective. However, the course is designed for all economics students, with important applications to various areas of economics and business.

Prerequisites: As is true for all advanced courses in microeconomics, this course is based on developing and understanding theoretical models. Therefore, a strong grounding in ***theory*** and ***mathematics*** is essential. ECON*3710 and hence ECON*2770 are the formal prerequisites for this course. If you did not enjoy or do well in these courses, I advise that you not take this one as it is more of the same only at a more advanced level (i.e., especially in comparison to ECON*3710). These prerequisites are very important and I strongly advise you to return to material (and your texts) from these courses whenever you are having difficulty with associated material in this course.

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Grading Scheme:

Assignments (best 2 of 3):	15%
Midterm (tentatively Oct. 21, in class):	35%
Term Work (subtotal)	50%
Final Exam Dec. 10th from 2:30-4:30 pm	50%
Total	100%

NOTE: If your final exam grade is higher than your term work (subtotal), the weights will change to 70% on the final exam and 30% for term work. Please check your final exam date from the information provided by the registrar's office.

Textbooks:

1. **An Introduction to the Economics of Information: Incentives & Contracts**, by Inés Macho-Stadler and David Pérez-Castrillo, Oxford University Press, 1997.

2. **The Analytics of Uncertainty and Information**, by Jack Hirshleifer and John G. Riley, Cambridge University Press, 1992.

Please note that, rather paradoxically, I have chosen **TWO** textbooks in order to (a) save you money and (b) provide you with material that is presented in a better pedagogical fashion and also is much more user friendly than would be the case if I chose a single text. Although there are a number of suitable comprehensive textbooks in microeconomics which cover all of the course material, any of these costs over $150 and so would be much more expensive than the two books I use. Moreover, these other texts are for the most part extremely dense, terse and use a substantially more (unnecessarily) sophisticated mathematical approach.

I will also refer to the text from the course ECON*3710 Advanced Microeconomics, which is:

MICROECONOMIC THEORY: Basic Principles and Extensions, 9th or 10th edition, by Walter Nicholson (& Christopher Snyder for the 10th edition).

If you do not still have this book (either of the above editions would be fine), you can photocopy relevant chapters from the copy that is on reserve in the library. Also useful and to be placed on reserve is the book:

Decision Analysis, Introductory Lectures on Choices Under Uncertainty, Raiffa (Addison Wesley 1968), [Raiffa]

Other readings are given later in this outline in the Schedule of Readings section. Some of these you will need to photocopy, while others will be made available to you.

Very Important Note

It is not possible to schedule a separate time for the exam due to conflicts with other exams or holiday plans. Therefore, make sure you find the date and time for the final exam and make sure you can make this time!

Course Evaluations. You will be asked to complete an evaluation of this course at some time during the last two weeks of the semester. The Department of Economics policy regarding the conduct and use of these evaluations will be found at:

http://www.uoguelph.ca/economics/academics/courses/course-evaluation

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Mathematics Review:

Although all of the material from the courses **ECON*2770 Introductory Mathematical Economics** is important background to this course, those sections that are most relevant to the development of microeconomic models used in this course are covered in Chapters 3, 5, 6, 11, 12, 13 and 14 of the text Mathematics for Economics, 2nd ed. by Hoy, Livernois, McKenna, Rees and Stengos (MIT Press, 2001). The Review Questions below serve as a self-test for you to determine whether you need to review this material. If you have any concern that your mathematics background is too weak for this course, ***TRY THESE QUESTIONS!*** If you have any difficulties with these questions you should immediately begin reviewing the relevant material. There are solutions to all of these exercises in the **Student Solutions Manual** which accompanies the text.

Relevant review exercises from **Mathematics for Economics, 2nd ed.**, by Hoy, et al.:

Chapter 3: Exercises to Section 3.5 (pp. 108-110): number 8
Chapter 5: Review Exercises (pp. 224-226): numbers 1, 3, 5, 7, 9
Chapter 6: Review Exercises (pp. 274-276): numbers 3 (pick a few), 5, 9
Chapter 11: Review Exercises (pp. 541-543): numbers 1, 3, 5
Chapter 12: Review Exercises (pp. 581-583): numbers 1 (pick a few), 5
Chapter 13: Exercises to Section 13.1 (pp. 615-616): numbers 1 (pick a few), 5, 7

Relevant review exercises from **3rd edition** of above text:

Chapter 3: Exercises to Section 3.5 (pp. 95-96): number 5
Chapter 5: Review Exercises (pp. 191-193): numbers 1, 3, 5, 7, 9
Chapter 6: Review Exercises (pp. 230-232): numbers 3 (pick a few), 5, 9
Chapter 11: Review Exercises (pp. 471-472): numbers 1, 3, 5
Chapter 12: Review Exercises (pp. 500-501): numbers 1 (pick a few), 5
Chapter 13: Exercises to Section 13.1 (pp. 515-616): numbers 1 (pick a few), 5, 7

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TENTATIVE OUTLINE AND READINGS

There will be additions to and possibly deletions from the readings below.

1. Review of Concepts of Efficiency [Especially the Pure Exchange Model and Edgeworth Box Diagram]

*Nicholson, [Ch. 12 in the 9th edition or Ch. 13 in the 10th edition]

2. Choice Under Uncertainty and the Economics of Information

*Nicholson, [Chs. 18 and 19 in the 9th edition or Chs. 7 and 18 in the 10th edition]
*Hirshleifer and Riley, Ch. 1
Raiffa, Ch. 4

3. More on Choice Under Uncertainty and the Value of Information

*Hirshleifer and Riley, Ch. 2, Ch. 3 (pp. 83-99), Ch. 4 (pp. 120-134), Ch. 5 (pp.167-208)
*Harrington, S. and G. Niehaus (2003), "United Grain Growers: Enterprise Risk Management and Weather Risk," ***Risk Management and Insurance Review***, Vol. 6, no.2 pp. 193-217.
* Guiso, L. and M. Paiella (2005), "The Role of Risk Aversion in Predicting Individual Behaviours," Banca D'Italia, Working paper no. 546, URL:
http://www.bancaditalia.it/pubblicazioni/econo/temidi/td05/td546_05/td546/tema_546.pdf

4. An Introduction to the Problems of Asymmetric Information

*Macho-Stadler and Pérez-Castrillo, Chs. 1, 2
Akerlof, G. A., (1970): "The Market for Lemons: Quality Uncertainty and the Market Mechanism," ***Quarterly Journal of Economics***, vol. 84, pp. 488-500.

5. The Problem of Moral Hazard

*Macho-Stadler and Pérez-Castrillo, Ch. 3 (pp. 35 to 87)
*Norton, S. W. (1988), "An Empirical Look at Franchising as an Organizational Form," ***The Journal of Business***, Vol. 61, No. 2, pp. 197-218.
Lafontaine, F. and J. Oxley (2001), "International Franchising: Evidence from US and Canadian Franchisors in Mexico," NBER working paper #8179.

6. The Problem of Adverse Selection

*Macho-Stadler and Pérez-Castrillo, Ch. 4 (pp. 101 to 116, Section 4B - pp. 142-149)
*Rothschild, M. and J. Stiglitz (1976): "Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information." ***Quarterly Journal of Economics,*** vol. 90, pp. 629-649.
*Hoy, M. and M. Ruse: "Regulating Genetic Information in Insurance Markets," ***Risk Management and Insurance Review***, vol. 8, no. 2, pp. 211-237.

7. Problems Involving Dual Asymmetric Information

*Chan, R. and M. Hoy (1991), "East-West Joint Ventures and Buyback Contracts," ***Journal of International Economics***, vol. 30, pp. 331-343.

8. Signalling Equilibria - *Macho-Stadler and Pérez-Castrillo, Chapter 5 (pp. 183-190)

1. The Department of Economics & Finance *Learning Objectives* (*skills* and *knowledge* competencies) for this course are:

Skills

- Numerical Problem Solving
- Analytical Problem Solving
- Problem Solving in a Real World Context (e.g., using models to explain how insurance or labour contracts are structured to avoid problems of moral hazard and adverse selection in markets characterized by uncertainty.)

Knowledge

- Mathematical Methodology (calculus, algebra, optimization, etc.)
- Modeling (decision making under risk and uncertainty, etc.)
- Understanding the importance of risk and uncertainty for individuals, markets, and the overall economy.