Unit Outline*

ECON7402

Microeconomic Theory

Semester 1, 2011
Campus: Crawley

Unit Coordinator
Assistant Professor Sam-Ho Lee

Business School
www.business.uwa.edu.au

* This Unit Outline should be read in conjunction with the Business School Unit Outline Supplement available on the Current Students web site http://www.business.uwa.edu.au/students
UNIT DESCRIPTION

Introduction
This is a microeconomics unit at honour’s level. This is a self-contained course, but it will be useful to have necessary mathematical skills of algebra, calculus, and analysis.

Unit content
The topics covered in this unit are not much different from those covered in previous microeconomics sequences. However, the subjects will be treated more rigorously.

There will be two major topics covered in this unit: General Equilibrium and Game Theory. The specific subjects covered are as follows.

Part A: General Equilibrium

I. Introduction
   a. Basic Assumptions of Economics : Rational Self-Interest Maximizing Agent
   b. Scientific Structure of Economics : From assumption to implication
   c. Goal: to rigorously ascertain Adam Smith’s idea – Fundamental Theorem of Welfare Economics

   "It is not from the benevolence of the butcher, the brewer or the baker that we expect our dinner, but for their regard to their self interest. We address ourselves, not to their humanity, but to their self-love and never talk to them of our necessities but to their advantages."

   “But the annual revenue of every society is always precisely equal to the exchangeable value of the whole annual produce of its industry, or rather is precisely the same thing with that exchangeable value. As every individual, therefore, endeavors as much he can both to employ his capital in the support of domestic industry, and so to direct that industry that its produce may be of the greatest value; every individual necessarily labors to render the annual revenue of the society as great as he can. He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. By preferring the support of domestic to that of foreign industry, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for the society that it was not part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it. I have never known much good done by those who affected to trade for the public good. It is an affectation, indeed, not very common among merchants, and very few words need be employed in dissuading them from it.”

   II. Consumer Theory
      a. Consumption Set (MWG 2.B-C)
      b. Budget Set (MWG Ch.2.D)
      c. Preference Relation and its Utility Function Representation (MWG Ch.3.B-C)
      d. Utility Maximization (MWG Ch.3.D)
         i. Walrasian Demand Function
         ii. Indirect Utility Function
      e. Expenditure Minimization (MWG Ch.3.E)
         i. Hicksian Demand Function
         ii. Expenditure Function
      f. Relationship between Demand, Indirect Utility, and Expenditure Functions (MWG Ch.3.G)
i. Shepard's Lemma
ii. Roy's Identity
iii. Slutsky Equation
  g. Welfare Evaluation (MWG Ch.3.I) (optional)

III. Producer Theory
  a. Production Sets (MWG Ch.5.B)
  b. Profit Maximization and Cost Minimization (MWG Ch.5.C)

IV. General Equilibrium
  a. Competitive (or Walrasian) Equilibrium and Pareto Optimality (MWG Ch.16.B)
  b. Fundamental Theorem of Welfare Economics (MWG Ch.16.C-D)
  c. Existence of Equilibrium (MWG Ch.17.C)

Part B: Game Theory

V. Normal Form Games
  a. The Normal Form Representation (G1.1.A; MWG 8.A)
  b. Rational Strategic Behaviour 1: Dominant Strategies (G1.1.B; MWG Ch.8.B)
  c. Rational Strategic Behaviour 2: Iterated Deletion of Dominant Strategies (G1.1.B; MWG Ch.8.B)
  d. Rational Strategic Behaviour 3: Nash Equilibrium (G1.1.C; MWG Ch.8.D)

VI. Extensive Form Games
  a. The Extensive Form Representation (G2.4.A; MWG Ch.7.C)
  b. Backward Induction and Credible Threats (G2.1.A; MWG Ch9.B)
  c. Subgame Perfection (G2.2.A-B, G2.4B; MWG Ch.9.B)
  d. Repeated Games and Folk Theorems (G2.3; MWG Ch.12.D)

VII. Mixed Strategies and Existence
  a. Brief Overview of Decision Making under Uncertainty
  b. Mixed Strategies (G1.3.A; MWG Ch.8.D)
  c. Dominated Strategies Revisited (G1.3.A; MWG Ch.8.B)
  d. Existence of Nash Equilibrium (G1.3.B; MWG Ch.8.D)

VIII. Games of Incomplete Information
  a. Harsanyi's Insight
  b. Static Incomplete Information Games (G3.1.B and G3.1.C; MWG Ch.8.E)
  c. Examples (G3.1.B and 3.2.A)
  d. Dynamic Games of Incomplete Information (G4.1; MWG Ch.9.C)
  e. Examples : Signalling (G4.2.A-B; MWG Ch.13.C)

The goal of the unit

This unit aims to equip students with enough knowledge and skills to understand and evaluate the economic analysis and claims. Hopefully students can apply these skills to make their own claims on controversial matters.

Learning outcomes

On completion of this unit, you should be able to:

- Solve consumer’s utility maximizing decision and understand its implications.
- Solve producer’s profit maximizing decision and understand its implications.
- Explain the concept of market equilibrium and its efficiency result.
- Understand the strategic behaviour of economic agents.
- Figure out what outcome will result from the strategic interactions of economic agents.
• Apply the economic analysis to the interested social phenomena.

**Educational principles and graduate attributes**

In this unit, you will be encouraged and facilitated to develop the ability and desire to:

• Solve economics decision problems  
• Critically evaluate the argument on social phenomena through economic framework  
• Demonstrate self-management and independent learning skills through the completion of the prescribed weekly exercises  
• Think creatively through the completion of term assignment

**TEACHING AND LEARNING RESPONSIBILITIES**

**Teaching and learning evaluation**

You may be asked to complete two evaluations during this unit. The Student Perception of Teaching (SPOT) and the Students’ Unit Reflective Feedback (SURF). The SPOT is optional and is an evaluation of the lecturer and the unit. The SURF is completed online and is a university wide survey and deals only with the unit. You will receive an email from the SURF office inviting you to complete the SURF when it is activated. We encourage you to complete the forms as your feedback is extremely important and can be used to make changes to the unit or lecturing style when appropriate.

**Attendance**

Participation in class, whether it be listening to a lecture or getting involved in other activities, is an important part of the learning process. It is therefore important that you attend classes. More formally, the University regulations state that ‘to complete a course or unit students shall attend prescribed classes, lectures, seminars and tutorials’. Students should not expect to obtain approval to miss more than two classes per unit unless there are exceptional circumstances.

**CONTACT DETAILS**

We strongly advise students to regularly access their student email accounts. Important information regarding the unit is often communicated by email and will not be automatically forwarded to private email addresses.

<table>
<thead>
<tr>
<th>Unit coordinator/lecturer</th>
<th></th>
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<tbody>
<tr>
<td><strong>Name:</strong></td>
<td>Sam-Ho Lee</td>
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<tr>
<td><strong>Email:</strong></td>
<td><a href="mailto:samho.lee@uwa.edu.au">samho.lee@uwa.edu.au</a></td>
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<tr>
<td><strong>Phone:</strong></td>
<td>6488 5655</td>
</tr>
<tr>
<td><strong>Consultation hours:</strong></td>
<td>Tuesday 2pm – 4pm</td>
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<tr>
<td><strong>Lecture times:</strong></td>
<td>Monday 5pm – 6pm; Wednesday 2pm – 4pm</td>
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<tr>
<td><strong>Lecture venue:</strong></td>
<td>BUSN: 101</td>
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TEXTBOOK(S) AND RESOURCES

Unit website
The web page for the course can be found at http://www.webct.uwa.edu.au.

Recommended/required text(s)
There are two textbooks for this course:
Mas-Collel, A, Whinston, MD & Green, JR 1995, Microeconomic Theory, Oxford University Press.

ASSESSMENT MECHANISM

The purpose of assessment
There are a number of reasons for having assessable tasks as part of an academic program. The assessable tasks are designed to encourage you to explore and understand the subject more fully. The fact that we grade your work provides you an indication of how much you have achieved. Providing feedback on your work also serves as part of the learning process.

Assessment mechanism summary

<table>
<thead>
<tr>
<th>Item</th>
<th>Weight</th>
<th>Due date</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem sets</td>
<td>0%</td>
<td>Due date will be written on each problem set.</td>
<td>Problem sets would not be graded. However, the hand-in record may affect your final grade in the marginal case.</td>
</tr>
<tr>
<td>Term assignment</td>
<td>10%</td>
<td>Final lecture on 25 May</td>
<td>Students can choose not to do this assignment. Weight will equally be distributed to both exams.</td>
</tr>
<tr>
<td>Mid semester exam</td>
<td>45% (50%)</td>
<td>In class exam on 13 Apr</td>
<td></td>
</tr>
<tr>
<td>Final exam</td>
<td>45% (50%)</td>
<td>Date assigned in the exam week</td>
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Note 1: Results may be subject to scaling and standardisation under faculty policy and are not necessarily the sum of the component parts.

Note 2: Your assessed work may also be used for quality assurance purposes, such as to assess the level of achievement of learning outcomes as required for accreditation and audit purposes. The findings may be used to inform changes aimed at improving the quality of Business School programs. All material used for such processes will be treated as confidential, and the outcome will not affect your grade for the unit.
Assessment components

Problem sets
- There will be problem sets almost every week. Cooperative work is highly recommended, but you should hand in your own solution.
- Problem sets would not be graded. However, your hand-in history will be recorded and it may affect the final grade in the marginal case.

Term Assignment
- You can do either of two 1) You can pick up a renowned paper in microeconomics or related field and write a referee report on it. Referee report is just 2-3 pages long and composed of summary of the motivation and the result and your comment on it. You should hand in your referee report; and 2) You can find a newspaper article or magazine article on an interesting social phenomena (it should be a current one), and write a 1-2 page of comment on it. You should hand in a copy of an article and your comments.
- The grade of this assignment will compose 10% of the final grade. The originality and creativity of your comment will be the major component to be graded.
- You are encouraged to discuss with the instructor on this assignment when you have an idea.

Mid semester exam
- 3 hour in class exam
- Will compose 45% (50% if choosing not to do term assignment) of the final grade

Final exam
- 3 hour exam
- Will compose 45% (50% if choosing not to do term assignment) of the final grade

Submission of assignments
You should hand in by the final lecture of the unit. You can hand it in during class or by visiting my office.
Please remember to attach an Assignment Cover Sheet to the front of your assignment. You can download and print your Assignment Cover Sheet from the Current Students web page [http://www.business.uwa.edu.au/students/assessments](http://www.business.uwa.edu.au/students/assessments).

Student Guild
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Charter of Student Rights and Responsibilities
The Charter of Student Rights and Responsibilities outlines the fundamental rights and responsibilities of students who undertake their education at UWA (refer [http://handbooks.uwa.edu.au/undergraduate/poliproc/policies/StudentRights](http://handbooks.uwa.edu.au/undergraduate/poliproc/policies/StudentRights)).

Appeals against academic assessment
The University provides the opportunity for students to lodge an appeal against assessment results and/or progress status (refer [http://www.secretariat.uwa.edu.au/home/policies/appeals](http://www.secretariat.uwa.edu.au/home/policies/appeals)).