Economics 771 – First Semester 2020

Microeconomic Analysis

Course Description:

The course introduces the standard formal framework for the analysis of decision making by individual economic agents, in competitive, cooperative and non-cooperative/strategic environments. This framework forms the basic building blocks or starting point of much of modern economic theory and empirical analysis.

The main focus is theoretical model building and analysis, with some reference to and exploration of related empirical issues. The overarching focus of the course is the **methodology and assumptions** that lead to the familiar results. It is not *what* we find that is most essential to grasp but *how* and *why* we get to the findings.

Course Design:

The course is presented in three parts:

Part I: Game Theory – 5 lectures

Presented by

Melt van Schoor	Tel: +27-21-808-3414
Rm 602 CGW Schumann Building	E-mail: mpvs@sun.ac.za
office hours by appointment	

Part II: Consumer Theory – 5 lectures

Presented by

Marisa von Fintel	Tel: +27-21-808-2481
Rm 611 CGW Schumann Building	E-mail: marisa.vonfintel@sun.ac.za
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Part III: Producer and Market Theory – 2 lectures

Presented by

Gideon du Rand (*Course Convenor*)	Tel: +27-21-808-2241
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office hours by appointment	

We consider all three parts to be vital in the training of an economist; therefore satisfactory performance in *each* part is required in order to pass (see **Evaluation**)

The lectures make liberal and frequent use of the standard tools of mathematical optimization which were covered in the mathematics course. Some attention will be given to many of the mathematical features, but elements like basic calculus results will be taken as known and mastered by the student.

Students are expected to engage in critical and logical thinking, and to work towards developing concise and rigorous reasoning and writing skills. The course places great emphasis on active and extensive practice in problem solving as well as in-class participation during discussions. All of these elements will be assessed.

Broad Course Objectives:

- To demonstrate how formal approaches can be used to formulate and solve microeconomic problems analytically.

- To explain the intuition behind some of the more well known theorems in modern microeconomics.

- To build experience in tracing the consequences of specific assumptions often made in modelling decision processes, and consequently the reasons, costs and benefits of certain types of these assumptions.

- To provide students with a foundation to apply game-theoretic analysis, both formally and intuitively, to strategic situations.

- To demonstrate the importance of competitive and cooperative factors in a variety of decision problems.

- To help students recognize and assess archetypal strategic situations in complicated decision making settings.

- To facilitate critical engagement with the material in order to achieve synthesis across the various topics, and develop skills to apply to understanding most fields in economics.

- To indicate directions in which different parts of microeconomics have been taken and what is done at the cutting edge of research.

Lectures:

Lecture notes will be provided on the department's website (ekon.sun.ac.za) at the discretion of the lecturer, but practically all mathematical derivations will be done (exclusively) in class, by hand.

Tutorial Sessions and Problem Sets:

Problem Sets will be assigned during the course and are due at the following tutorial session.

The purpose of these tutorials will be to review material covered in class, provide guided practice in solving problems and to discuss the answers to problem sets.

While the problem sets will aid you in learning the techniques you need to master for the tests and exams, they are *not* intended primarily as opportunities to practice questions for exam preparation – this is your own responsibility. The tutorials are to be seen as extensions of the methods developed in class to more complicated environments to learn the methodology, not as study aids to memorize the work.

Tutors:

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Kholekile Malindi   E-mail: kholekile@sun.ac.za
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Evaluation:

Students' performance on the course will be evaluated with the following assessments:

Evaluation	Date
Problem Sets	Due in Tutorial Classes
Mid-Semester Test 1	Tuesday, 17 March 2020 (evening)
Mid-Semester Test 2	Tuesday, 5 May 2020 (evening)
Course Essay	Due Friday, 24 April 2020
Final Exam	May/June 2020

Weights:

- The final mark for **each part** of the course will consist of 20% for tutorials and 80% for final test/exam mark for that part of the course.
- The final course mark will be calculated as follows:

	Weight in Final Course Mark
Final Mark for Part I	30%
Final Mark for Part II	30%
Final Mark for Part III	20%
Essay	20%

Criteria for passing course:

In order to pass the course a student must have:

- A Final Course Mark of at least 50%
- A Test/Exam mark of at least 40% for *each* part of the course individually

In accordance with departmental policy, only students who have a calculated final course mark of at least 40% qualify for a supplementary exam.

Exam Coverage:

- The mid-semester test 1 will cover Part I.
- The mid-semester test 2 will cover Part II.
- The final exam will cover the entire course, but:
    - Students who miss/obtain less than 40% in Mid-Semester Test 1 are *required* to write on Part I.
    - Students who miss/obtain less than 40% in Mid-Semester Test 2 are *required* to write on Part II.
    - Students who passed either/both Mid-Semester Tests may use the exam to attempt to improve their marks.
    - In all cases, the highest of the first or second attempt becomes the final mark.
    - The final exam is the **LAST** opportunity to pass Parts I and II of the course.

- There will be a supplementary exam on part III for those who do not make the minimum passing requirements for the course in the exam. This will be the **LAST** opportunity to pass part III of the course, and marks for this exam will be capped at 50%. Note the following university rule: if a student is admitted to a supplementary exam with a final course mark of less than 50%, the final course mark is capped at 50%. If a student is admitted to a supplementary exam with a final course mark of more than 50%, the final course mark cannot increase, regardless of the mark for the supplementary exam.
- The supplementary exam will also serve as the sick exam for students who passed the minimum requirements of the semester tests but is sick during the final exam. To qualify for this sick exam students must submit a doctor's certificate that satisfies departmental rules. If a student misses/fails a test for any reason and is sick in the exam, that student will receive an incomplete and will have to repeat the course.

Course Essay:

Students are expected to write a critical academic essay on a number of topics that will be provided. Once the essay topics are released, students must sign up (on the SUNLearn site) for topics on a first-come-first served basis. Where a topic is stated broadly, you should choose the scope and focus of your essay – make sure to explicitly state and motivate your choices in this regard.

The essays are split equally between the lecturers, as such, you will have to sign up for a topic when they are announced. During the first week of the course, you will be informed when to expect the topics to be released. You must take careful note of the requirements of the essay you choose, as a change of topic will only be considered under the most exceptional of circumstances, and will furthermore be *entirely* at the discretion of the lecturing team. A request for a topic change less than 4 weeks before submission deadline will be summarily denied.

The requirements are:
- The TurnItIn.com submission must be the final, **complete** essay in **pdf** form, with *all* headings, citations, figures, tables and references (Gideon will only grade this submission).
- 12pt font, **2 line spacing** (this makes it easier to do inline comments on TurnItIn.com)
- A signed plagiarism declaration must be handed in with Carina or attached to a physical copy
- The word limit for this essay is 2000. This maximum will be strictly enforced: word limit penalties will be applied proportional to the number of words exceeding 2000. Please report your word count on the title page of your essay.
- A late submission penalty of 2 percentage points per day late will be imposed.

On the TurnItIn.com submission: until the deadline, your submission will be in draft form, which means you will be able to re-submit to fix small problems you missed. This is a leniency we allow for students that are new at academic writing, not a method of systematically gaming the system. We may download draft submissions at any point to check for this. Once the deadline is past, the submission is final, and you will be held accountable for any and all plagiarism found in your essay.

Marks are allocated according to how well students perform in terms of content (50%), writing style (30%) and bibliography (20%).

Prescribed Textbook:

> Jehle, G.A. and Reny, P.J. (2011) *Advanced Microeconomic Theory*, 3rd Edition,
> Financial Times|Prentice Hall, Harlow, England. (*referred to as JR below*)

Recommended textbooks:

> *Easier than course level:*
> Varian, H.R. (2009). *Intermediate Microeconomics: A Modern Approach*. 8th Edition.
> Dixit, A., Reiley, D.H. and Skeath, S. (2015). *Games of Strategy*. 4th Edition.
>
> *On par with course difficulty level:*
> Varian, H.R. (1992). *Microeconomic Analysis*, 3rd Edition.
>
> *More advanced than course level:*
> Mas-Colell, A., Whinston, M.D. and Green, J.R. (1995). *Microeconomic Theory*.

Papers: Several papers will be used as additional content resources and as examples of current theoretical and empirical work. All assigned readings are examinable unless otherwise indicated.

Brief Lecture Outline:

Part I: Game Theory – 5 Lectures – Melt van Schoor

> (Note: Additional readings will be indicated on the course webpage.)

- Strategic-form games and solution concepts (1 lecture)
  <u>*Readings:*</u>

  JR Chapter 7: 7.1 – 7.2 (up to p. 313),

  > Mathematical Appendices: A1.1-1.2

- Decisionmaking under uncertainty (1 lecture)
  <u>*Readings:*</u>

  JR Chapter 2: 2.4

- Mixed Strategies (1 lecture)
  <u>*Readings:*</u>

  JR Chapter 7: 7.2 (up to p. 319)

  > Mathematical Appendices: A1.3

- Continuous strategy spaces (0.5 lecture)
  Extensive form games (0.5 lecture)
  <u>*Readings:*</u>

  JR Chapter 4: 4.2

  > Chapter 7: 7.3.1-7.3.5

- Dynamic games of imperfect information (1 lecture)
  <u>*Readings:*</u>

  JR Chapter 7: 7.3.6

Part II: Consumer Theory – 5 Lectures – Marisa von Fintel, Gideon du Rand

- Preliminaries, Math, Logic, Preferences and Utility (1 lecture)
  Readings:

  `JR Chapter 1: 1.1 – 1.3,

  Mathematical Appendices: A1.1, A1.2.2, A1.4, A2.3 (review these parts)

- Consumer Problem in Primal and Dual form, Demand and its characterization (2 lectures)

  Readings:

  JR Chapter 1: 1.3 – 1.5,

  Chapter 2: 2.1, (2.2)

- Applied Consumer Theory (1 lecture)

  Readings:

  JR Chapter 1: 1.3 – 1.5,

  Chapter 2: 2.1, (2.2)

- Insurance (1 lecture), Gideon du Rand

  (1 lecture)

  Readings:

  JR Chapter 2: 2.4

  Ehrlich, I. and Becker, G.S., 1972. "Market Insurance, Self-insurance and Self-protection." *The Journal of Political Economy* 80(4): pp. 623-648.

Part III: Producer and Market Theory – 2 Lectures – Gideon du Rand

- Theory of Firm

  (2 lectures)

  Readings:

  JR Chapter 3

  Kremer, M., 1993. "The O-ring theory of economic development." *The Quarterly Journal of Economics*, 108(3), pp.551-575.

- Markets, Equilibrium and Welfare

  (1 lectures)

  Readings:

  JR Chapter 4

  JR Chapter 6.1 – 6.2

  Arthur, W.B., 1989. "Competing technologies, increasing returns, and lock-in by historical events." *The Economic Journal*, 99(394), pp.116-131.

  De Loecker, J. and Eeckhout, J., 2019(accepted). "The rise of market power and the macroeconomic implications." *Quarterly Journal of Economics (forthcoming).*

Schedule: Dates for Lectures and Tutorials

Given a number of events/holidays on Wednesdays, the tutorial and lecture slots will sometimes swap. Please follow the dates below:

Week	Tests/Essay	Wednesday	Thursday
1		5 February Tutorial Session (to be confirmed)	6 February Game Theory Lecture 1
2		12 February Game Theory Tutorial 1	13 February Game Theory Lecture 2
3		19 February Game Theory Tutorial 2	20 February Game Theory Lecture 3
4		26 February Game Theory Tutorial 3	27 February Game Theory Lecture 4
5		4 March Game Theory Tutorial 4	5 March Game Theory Lecture 5
6		11 March Consumer Theory Lecture 1	12 March Game Theory Tutorial 5
7	Tuesday, 17 March Semester Test 1	18 March Consumer Theory Lecture 2	19 March Consumer Theory Tutorial 1
8		25 March Recess	26 March Recess
9		1 April Consumer Theory Lecture 3	2 April Consumer Theory Tutorial 2
10		8 April Consumer Theory Lecture 4	11 April Consumer Theory Tutorial 3
11		17 April Postgrad Conference (no session)	18 April Consumer Theory Tutorial 4
12		22 April Consumer Theory Lecture 5	23 April Producer Theory Lecture 1
13	Friday, 24 April Essay Due	29 April Recess	30 April Recess
14	Tuesday, 5 May Semester Test 2	6 May Producer Theory Lecture 2	7 May Producer Theory Lecture 3
15		15 May Consumer Theory Tutorial 5	16 May Producer Theory Tutorial 1