Economics 771 – First Semester 2023

MICROECONOMIC ANALYSIS

Course Description:

The course introduces the standard formal framework for the analysis of decision making by individual economic agents and their interaction in market and strategic contexts. This framework forms the basic building blocks and 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 (*also Module Coordinator*)   Tel: +27-21-808-3414
Rm 602 CGW Schumann Building   E-mail: mpvs@sun.ac.za
office hours by appointment

Part II: Consumer Theory – 3 lectures

Part III: Producer and Market Theory – 5 lectures

Presented by

Mamello Nchake   Tel: +27-21-808-2225
Rm 510 CGW Schumann Building   E-mail: mnchake@sun.ac.za
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 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:

There is one weekly lecture (see schedule below). Lecture notes will be provided on the course website on SUNlearn (learn.sun.ac.za) at the discretion of each lecturer. Students are expected to attend and participate actively in all lectures. Students who are unable to attend must inform the relevant lecturer of the reason(s) by email.

Students are strongly advised to review lecture material immediately after each lecture and ask for clarification as needed. The Honours programme is time-intensive so there will be no time to "catch up" later.

Tutorial Sessions and Problem Sets:

Problem Sets will be assigned during the course and are due to be handed in for grading **at the beginning** of the following tutorial session. The tutorials are intentionally challenging and will in many cases apply methods introduced in lectures to more complicated cases than those covered in the lectures, in order for students to develop problem solving skills and a deeper understanding of the methodology used in microeconomic theory. Do not expect to be able to complete all of the problems on your first attempt but try to develop your skills and knowledge as much as possible and consult examples and lecture notes as needed.

The tutors will discuss aspects of the various problems during the tutorial session – students are encouraged to communicate specific needs directly to the tutors. Grading of the problem sets will focus on evidence of adequate preparation and effort (engagement) rather than fully correct answers to each question.

Students are encouraged to work together in groups on the problem sets, but each student will hand in his/her own work and copying answers is not allowed. Students that rely too much on the group without ensuring that they can solve the same kinds of problems independently may struggle in the main assessments (tests / exams).

Tutor:

Charl Schoeman   E-mail: 21625247@sun.ac.za

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	Monday, 27 March 2023 (evening)
Mid-Semester Test 2	Tuesday, 2 May 2023 (evening)
Course Essay	Due Thursday, 17 April 2023 at 12:00
Final Exam	May/June 2023

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	20%
Final Mark for Part III	30%
Essay	20%

Criteria for passing course:

In order to pass the course the requirements are:

- A Final Course Mark of at least 50%
  - **and**
- a main assessment (test/exam) mark of at least 40% for *each* part of the course individually
  - **and**
- an acceptable essay must be handed in (see requirements below).

Assessment coverage:

- The mid-semester test 1 will cover Part I.
- The mid-semester test 2 will cover Part II.
- The final exam will cover Part III of the course, and will also include additional question papers for Parts I and II of the course. The additional papers will be written by students who qualify for **second opportunities** or **sick tests** for Part I and/or Part II as explained below. These papers will have identical coverage and format to the respective semester test papers.

Second opportunities and sick tests:

- All students are required to write the **first** main assessment for each Part, i.e. the semester tests for Parts I and II and the exam for Part III.

- Students who obtain a mark of below 50 for a semester test **may** write the second opportunity paper for the respective Part(s) during the exam. Students who obtain a mark below 40 for a semester test are **required** to write the second opportunity paper. Students obtain a mark of 50 or above for a semester test **may not** write the second opportunity paper to improve their marks.

- If a second opportunity assessment is written, the **best** of the two results will be used as the main assessment mark for the relevant Part, subject to a **cap**: the maximum mark for the test that will be awarded in such a case is 50.

- Students who miss one or both of the semester tests due to medical reasons will write a **sick test** for the respective Part(s), during the exam. Such students must submit valid(*) medical certificates within 48 hours of the missed test to the course convenor for approval. If a valid medical certificate is not received by this deadline, the student will not gain entrance to the sick test opportunity and the module will be deemed incomplete on their academic record. No exceptions will be made. [(*) A **valid** medical certificate must a) indicate the name of the patient (student), b) the date and time of medical examination; c) an indication that the certificate has been issued after a personal observation (this excludes telephonic consultation or communication) of the student by a suitably registered medical practitioner; d) confirmation that the student will not be able to or was not able to attend class or take the class test(s) or carry out the class work, due to illness, and f) any other information which, in the judgement of the practitioner would be required or relevant. Please refer to the University Calendar, Part 1, for further information.]

- Students who miss semester test 1 or semester test 2 but fail to submit a valid medical certificate will not be allowed to write a sick test and will therefore be unable to complete the module.

- There are no second opportunities for sick tests and no sick tests for second opportunities. The final examination is the LAST opportunity to pass Parts I and II of the course. If a student misses or fails a test for any reason and is sick on the examination day, that student will receive an incomplete result and will have to repeat the course.

- Any student who submits a medical certificate for Part III's main assessment (the final examination) may not write any second opportunity or sick tests on that day.

Supplementary / sick examination:

- Students who obtain an exam mark of 40 or more for Part III, but who have not yet obtained a final course mark of 50 as required to pass the module, may write a supplementary exam on Part III at a later date. (Students obtaining less than 40 in the exam for Part III therefore fail the module because there is no second opportunity to achieve the required subminimum mark of 40 for Part III.)

- Students who write a supplementary exam will be awarded a maximum final course mark of 50, unless the calculated final course mark before the supplementary exam is higher than 50, in which case the final course mark will be capped at that level.

- The supplementary exam will also serve as the sick exam for students who passed the minimum requirements of the semester tests but are sick during the final exam. To qualify for this sick exam students must submit a valid medical certificate – requirements as above. The supplementary examination is in all circumstances the final examination opportunity. Sick exam marks are not capped.

Course Essay:

Students are expected to write a critical academic essay on a topic that will be assigned from a list that will be provided. Once the essay topics are released, students must sign up (on SUNLearn) 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. Your essay must be original (written by yourself, not copied and/or paraphrased from other sources or generated by electronic services, excepting normal academic quotations and references).

The essays are split between the course 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 the submission deadline will not be considered.

The requirements are:
- The TurnItIn.com submission must be the final, **complete** essay in **pdf** form, with *all* headings, citations, figures, tables and references.
- 12pt font, **double** line spacing (this makes it easier to do inline comments on Turnitin.com)
- A plagiarism declaration must be completed. Do not rely on the turnitin.com "score" to judge whether an essay contains plagiarism or not. It is each student's responsibility to fully understand what may be regarded as plagiarism and to ensure that there is no plagiarism in his/her essay. Plagiarism is a serious offense with serious consequences and very little (if any) leniency can be expected at postgraduate level.
- 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. More than two weeks late hand-ins will not be accepted except by special permission of the course coordinator.

Marks are allocated according to how well students perform in terms of content, structure, use of sources, writing style and technical matters.

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.

Additional prescribed materials may be indicated in lectures and/or on the course SunLearn page.

Brief Lecture Outline:

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

- Strategic-form games and solution concepts (1 lecture)
  Readings:

  JR   Chapter 7: 7.1 – 7.2 (up to p. 313); Mathematical Appendices: A1.1-1.2

  Aumann, R. J. (1985) "What is Game Theory Trying to Accomplish?" in *Frontiers of Economics* edited by K. Arrow and S. Honkapohja. Oxford: Blackwell.

  Samuelson, L., (2016) "Game Theory in Economics and Beyond", *Journal of Economic Perspectives* 30(4): 107–130

  Mailath, G.J. (1998) "Do People Play Nash Equilibrium? Lessons from Evolutionary Game Theory", Journal of Economic Literature 36(3): 1347-1374.

- Decisionmaking under uncertainty (1 lecture)
  Readings:

  JR   Chapter 2: 2.4

  Sen, A. (2008). "Rational Behaviour". In Durlauf, S. N. and Blume, L. E., editors, The New Palgrave Dictionary of Economics. Palgrave Macmillan.

  Schoemaker, P. J. H. (1982). "The Expected Utility Model: Its Variants, Purposes, Evidence and Limitations". Journal of Economic Literature, XX:529–563.

- Mixed Strategies (1 lecture)
  Readings:

  JR   Chapter 7: 7.2 (up to p. 319); Mathematical Appendices: A1.3

  Nash, J. F. (1950). "Equilibrium Points in N-Person Games", Proceedings of the National Academy of Sciences 36, 48-49.

  Sinervo, B. and C. M. Lively (1996). "The Rock-Paper-Scissors Game and the Evolution of Alternative Male Strategies", *Nature* 380, 240–243.

- Continuous strategy spaces (0.5 lecture)
  Extensive form games (0.5 lecture)
  Readings:

  JR   Chapter 4: 4.2

       Chapter 7: 7.3.1-7.3.5

- Dynamic games of imperfect information (1 lecture)
  Readings:

  JR   Chapter 7: 7.3.6

  Rubinstein, A. (1991). "Comments on the Interpretation of Game Theory", Econometrica 59(4): 909-924.

  Levitt, S. D., List, J. A., & Sadoff, S. E. (2011). "Checkmate: Exploring backward induction among chess players", American Economic Review, 101(2), 975-90.

Part II: Consumer Theory – 3 Lectures – Mamello Nchake

- Preliminaries, Math, 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, 2.4

Part III: Producer and Market Theory – 5 Lectures – Mamello Nchake

- Theory of Firm (2 lectures)

  Readings:

  JR   Chapter 3

  Rauh, M.T., 2018. "The O-ring theory of the firm." _Journal of Economics & Management Strategy_, 27(1), pp.82-101.

- Markets and Welfare (2 lectures)

  Readings:

  JR   Chapter 4

  JR   Chapter 6.1 – 6.2

  Li, Y. and Shuai, J., 2019. "Monopolistic competition, price discrimination and welfare." _Economics Letters_, 174, pp.114-117.

- Empirical issues in theory of production and supply (1 lecture)
  Readings:

  JR   Chapter 3

  De Loecker, J. and Eeckhout, J., 2020. "The rise of market power and the macroeconomic implications." _Quarterly Journal of Economics, 135(2),_ pp 561-644.

  De Mel, S., Mckenzie, D. and Woodruff, C., 2008. "Returns to Capital in Microenterprises: Evidence from a Field Experiment." _The Quarterly Journal of Economics_, 123(4), pp. 1329-1372.

  Bloom, N., Eifert, B., Mahajan, A., Mckenzie, D. and Roberts, J., 2013. "Does Management Matter? Evidence from India." _The Quarterly Journal of Economics_, 128(1), pp. 1-51.

Schedule: Dates for Lectures and Tutorials

Week	Wednesday 14:00	Thursday 14:00	Other
1	8 February Game Theory Extra Session	9 February Game Theory Lecture 1	
2	15 February Game Theory Tutorial 1	16 February Game Theory Lecture 2	
3	22 February Game Theory Tutorial 2	23 February Game Theory Lecture 3	
4	1 March Game Theory Tutorial 3	2 March Game Theory Lecture 4	
5	Recess	Recess	
6	15 March Game Theory Tutorial 4	16 March Game Theory Lecture 5	
7	22 March Consumer Theory Lecture 1	23 March Game Theory Tutorial 5	
8	29 March Consumer Theory Lecture 2	30 March Consumer Theory Tutorial 1	Monday 27 March Semester Test 1
9	Recess	Recess	
10	12 April Consumer Theory Lecture 3	13 April Consumer Theory Tutorial 2	
11	19 April Producer Theory Lecture 1	20 April Consumer Theory Tutorial 3	Monday 17 April, 12:00 Essay Due
12	26 April Producer Theory Lecture 2	Public Holiday	
13	3 May Producer Theory Lecture 3	4 May Producer Theory Tutorial 1	Tuesday 2 May Semester Test 2
14	10 May Producer Theory Lecture 4	11 May Producer Theory Tutorial 2	
15	17 May Producer Theory Lecture 5	18 May Producer Theory Tutorial 3	