

Part C: Description of All Courses

Course Code: ECON 501

Course Title: Advanced Microeconomics

Course Type (GED/Core/Elective): Core

Year/Level/Semester/Term: One Year

Academic Sessions: 2021-22 & 2022-23

Course Teacher/Instructor:

Pre-requisite (if any): None

Credit Hours: 04

Contact Hours: 60

Course Objective: This course aims at a rigorous mathematical treatment of selected advanced topics in microeconomics in order to strengthen students' knowledge about the marginal conditions that apply to individual economic agents' decision making. The undergraduate level courses in Microeconomics, although cover a great deal of the microeconomics topics, are mostly taught by way of graphical expositions. This course builds on students' knowledge of mathematical tools to explain advanced level topics in microeconomics and prepare students for reading advanced literature of economics and study at the MPhil and PhD levels as well.

Course Learning Outcomes (CLOs): After successful completion of the course, students will be able to understand and analyse:

1. consumer behavior under varying assumptions and conditions including consumer decisions in uncertain situations;
2. production and cost theories including pricing policy and revenue maximization;
3. game-theoretic approach to decision-making by firms in a competitive environment;
4. achieving equilibrium by decision makers in multi-market situations; and
5. the conditions under which economic agents' decisions lead to maximum social welfare.

CLOs Mapped to PLOs

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
CLO1	3	3	3	3	3	3
CLO2	3	3	3	3	3	3
CLO3	3	3	3	3	3	3
CLO4	3	3	3	3	3	3
CLO5	3	3	3	3	3	3

Course Contents

Topic	Content Summary	Teaching Strategies/Tools	In-Class Assessment	Contact Hours	CLOs
1	Consumer Theory: (a) Preference based theory; Axioms of preferences; Utility maximization, Walrasian demand, and indirect utility function; Expenditure minimization, Hicksian demand, and expenditure function; Integrability problem (b) Choice based theory; Weak axiom of revealed preference; Strong axiom and the	Strategies: Verbal, graphical and mathematical expositions Tools: Books; Handouts; Multimedia; Online resources	Q&As; Quizzes; Homework; Assignments; Presentations; Tutorials	4	1, 2

	correspondence between choice based theory and preference based theory (c) Lancaster's model of demand.				
2	Consumer Behaviour Under Uncertainty: Independence axiom and expected utility; Risk aversion; Arrow-Pratt's measurement of absolute and relative risk aversion; Applications.	Strategies: Verbal, graphical and mathematical exposition; Problems solving Tools: As above	As above	8	1, 5
3	Producer Theory: Properties of production set; Profit maximization, input demand, output supply and profit functions; Cost minimization, conditional factor demand and cost function; Duality between production and cost; Firm's behaviour under revenue maximization objective.	As above	As above	8	2
4	Game Theory: (a) Elements of a game; Normal and extensive form of a game; simultaneous and sequential games; (b) Pure and mixed strategy; (c) Solution concept: dominant strategy equilibrium, pure strategy Nash equilibrium, mixed strategy Nash equilibrium, and sub-game perfect Nash equilibrium.	As above	As above	10	2, 3
5	General Equilibrium Analysis: (a) Partial vs general equilibrium (b) General equilibrium in pure exchange economy (c) General equilibrium in one-producer, one-consumer economy (d) General equilibrium with production (e) Existence, Uniqueness and Stability of general equilibrium.	As above	As above	10	4
6	Mathematical Programming: Review of Linear Programming and Duality Analysis; Non-Linear Programming: Kuhn-Tucker Conditions	As above	As above	8	4
7	Welfare Economics: Utility possibility set and Pareto frontier; Social welfare function; Arrow's Impossibility Theorem; Theory of Second Best.	As above	As above	8	5

Class Schedule:

Lesson Plan

Week(s)	Topic(s)	#Classes	CLO(s)	Remarks
1 – 2	1	1 – 4	1, 2	
3 – 6	2	5 – 12	1, 5	
7 – 10	3	13 – 20	2	Class Test 1: (Topics 1 - 2) 13th Class
11 – 15	4	21 – 30	2, 3	
16 – 20	5	31 – 40	4	Class Test 2: (Topics 3 - 4) 31st Class
21 – 24	6	41 – 48	4	
25 – 28	7	49 – 56	5	Class Test 3: (Topics 5 - 6) 49th Class
29 – 30	1 - 7	57 – 60		Review

Overall Evaluation Policy:

- a. **Continuous Internal Evaluation (CIE): Marks - 00**
- b. **Year-End Examination (YEE): Marks - 100**

Bloom's Category	Marks (100)
Remember	20
Understand	30
Apply	10
Analyze	20
Evaluate	10
Create	10

- c. **Grading Scheme: As in Section 19**

Policy for Make-Up Classes:

- Utilize the open slots in consultation with students
- Swap classes with colleagues

Recommended References

1. Gravelle, H., & Rees, R. (2004). *Microeconomics* (3rd ed.). Pearson Education Ltd.
2. Henderson, J. M., & Quandt, R. E. (1980). *Microeconomic Theory: A Mathematical Approach*. McGraw Hill.
3. Layard, P.R.G., & Walters, A. A. (1978). *Microeconomic Theory*. McGraw Hill.
4. Mas-Colell, A., Whinston, M. D., & Green, J. R. (1995). *Microeconomic Theory*. Oxford University Press.
5. Varian, H. R. (1992). *Microeconomic Analysis* (3rd ed.). W. W. Norton & Company.

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Course Rationale: This course is an extension of the macroeconomics courses taught at the undergraduate level in that it explicitly adopts the representative agent based modern approach to analyse macroeconomic theories and accords more technical interpretations of the advanced topics in macroeconomics. It also refers to the empirical evidence related to various macroeconomic theories. As such, students' knowledge of mathematical economics, advanced statistics, and econometrics shall be deemed necessary.

Course Objective: This course aims at an augmented learning of the macroeconomic theories by way of relating them to the real-world outcomes and by analysing the impacts of the policy changes at the behest of the government as well as the rest of the world.

Course Learning Outcomes: After successful completion of the course, students will be able to understand and analyse, among other issues, the following:

1. The evolution of macroeconomics and Microeconomics of Macroeconomics;
2. The sources of economic growth;