

# Indian Institute of Technology Kanpur

## Proposal for a New Course

1. **Course No:** ECO701
2. **Course Title:** Advanced Microeconomics
3. **Per Week Lectures:** 3 (L), Tutorial: 0 (T), Laboratory: 0 (P), Additional Hours [0-2]: 0 (A), Credits  $(3*L+0*T+0*P+0*A) = 9$  Credits
4. **Duration of Course:** Full Semester
5. **Proposing Department/IDP:** Economic Sciences

Other Departments/IDPs which may be interested in the proposed course: No

Other faculty members interested in teaching the proposed course: Yes

6. **Proposing Instructor(s):** Faculty members of Economic Sciences

### 7. Course Description:

A) **Objectives:** Microeconomics helps in the understanding of the decision-making process of firms and individuals. The objective of this course is to give a rigorous training to students in fundamentals of microeconomic analysis.

B) **Contents** (*preferably in the form of 5 to 10 broad titles*): The course will be divided into two main parts. The first part will teach the mathematical economics foundational tools like real analysis and optimization. The second part includes analysis of theory of markets, the theory of consumer behavior, the theory of firms, theory of monopoly, perfect competition and efficiency analysis.

S.No.	Broad Title	Topics	No. of Lectures*
1	Mathematical Foundations: Analysis	Logic; Set Theory and Relations; Real Numbers and Sequences; Topology of real line; Continuity and Differentiability	8
2	Mathematical Foundations: Optimization	Multivariate Calculus; Implicit Function rule ; Concavity and Convexity; Homogeneity and Homotheticity; Unconstrained and Constrained Optimization; Kuhn-Tucker Conditions; Envelope Theorems; Monotone comparative statics	7
3	Theory of Consumer Behavior	Preferences and Utility; Consumer Optimization; Indirect Utility and Expenditure Functions; Slutsky Equation; WARP; Choice under Uncertainty and Risk Aversion	15
4	Theory of Producer Behavior	Production and Cost Functions; Duality; Profit Maximization	3

5	Partial Equilibrium Analysis	Competitive Equilibrium; Deadweight loss; First Welfare Theorem ; Welfare analysis	3
6	Monopoly	Monopoly pricing ; Price Discrimination	3

\*39 lectures of 50 minutes each

**C) Pre-requisites, if any:** None

**D) Short summary for including in the Courses of Study Booklet:** Microeconomics helps in the understanding of the decision-making process of firms and individuals. The objective of this course is to give a rigorous training to students in fundamentals of microeconomic analysis.

**8. Recommended books:**

- Microeconomic Theory by Mas-Collel, Whinston and Green. Oxford University Press
- Lecture Notes in Microeconomic Theory: The Economic Agent - Second Edition by Ariel Rubinstein. Princeton University Press, 2012
- Mathematics for Economists by Simon and Blume, W W Norton, 1994
- Advanced Microeconomic Theory by Jehle and Reny, 3<sup>rd</sup> edition. Prentice Hall, 2011
- Microeconomic Analysis by Varian, W W Norton, 1992

**9. Any other remarks:**

Dated: \_\_\_\_\_ Proposer: \_\_\_\_\_

Dated: \_\_\_\_\_ DUGC/DPGC Convener: \_\_\_\_\_

**The course is approved / not approved**

**Chairman, SUGC/SPGC**

**Dated: \_\_\_\_\_**