

# INDIAN INSTITUTE OF TECHNOLOGY MANDI

## Proposal for a New Course

**Course Name: Advanced Microeconomic Theory**

**Course Number: HS652**

**Credits: 3-0-0-3**

**Prerequisites: Microeconomics**

**Intended for: Ph. D.**

**Semester: Even/odd**

### **Course Preamble:**

The aim of this course is to make students to recognize the contribution and limitations of traditional economic theories and explore newer economic theories and modeling of more complex situations, such as decisions under uncertainty, models of imperfect competition. Further, student will also understand that because of interdependency, a decision made by one party has intended and unintended consequences on the other parties. They will learn how to analyze and solve both simultaneous-moves and sequential-moves games and will be familiarized with different solution concepts like minimax, Nash equilibrium, dominant strategy equilibrium, Sub game perfect equilibrium etc.

### **Course Outline:**

#### **Module – I (12 hours)**

Behaviouristic approach to demand analysis, Hicks' logic ordering theory of demand, attribute theory of demand, Consumer theory - basic building blocks of choices and preferences leading to utility, constrained maximization problems, duality in consumer theory: expenditure and consumer preference, convexity and monotonicity, indirect utility and consumer preferences, revealed preference theory; weak and strong axiom, dynamic stability analysis; Marshallian and Walrasian stability.

## **Module –II (21 hours)**

### Sub-module 1 (15 hours)

Perfect competition and derivation of firms and industry supply curve; Alchian & Demsetz (AER, 1972), Fama (JPE, 1980), Jensen & Meckling (JFE, 1976), Coase (Economica, 1937), theory of limit pricing; Bains model, Sylos model and generalization of Sylos model, role of sunk cost and R&D as a strategic entry barrier, non-linear pricing strategy (two- part tariff). Oligopoly and theory of game, strict and weak dominance – Prisoners’ dilemma and instability of cartels, Nash equilibrium, pure strategy and mixed strategies, extensive games with perfect information, extensive games with imperfect information, constant sum game with a special case of zero-sum games and computation, auctions and mechanism design.

### Sub-module 2 (6 hours)

Individual behavior under uncertainty, Information Economics – moral hazards, adverse selection and asymmetric information. Market– perfect and imperfect competition (Bilateral monopoly and duopsony).

## **Module –III (9 hours)**

Walrasian equilibrium, competitive equilibrium, Ronald Jones (1965, JPE), value judgment and welfare, social welfare and theory of social choice. Arrow’s theorem, measurability, comparability, and some possibilities, the Rawlsian form, the utilitarian form, flexible forms.

### **Textbooks:**

1. Mas-colell, Whinston and Green (1995), Microeconomic Theory, Oxford University Press, USA.
2. Robert Gibbons (1992), Game theory for applied economists, Princeton University Press.
3. Hal R Varian (1992), Microeconomic Analysis, W. W. Norton & Company.

### **Reference Books:**

1. Bernheim, B. Douglas and Whinston, Michael (2013), Microeconomics, McGraw-Hill.
2. Martin J. Osborne (2003), an Introduction to Game Theory, University of Toronto, Oxford University Press
3. James Friedman (2008), Oligopoly Theory, Cambridge University Press.

4. Geoffrey, A. Jehle Philip J. Reny (2011), Advanced Microeconomic Theory (3<sup>rd</sup> Edition), Prentice Hall.
5. Joel Watson (2013), Strategy – An Introduction to Game Theory. W.W. Norton & Co.
6. David M. Kreps (1990), a Course in Microeconomic Theory, Princeton University Press.

**Approvals:**

Other Faculty interested in teaching this course:

Proposed by: Dr. Ramna

School: HSS

Signature \_\_\_\_\_ Date \_\_\_\_\_

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Recommended/Not Recommended, with Comments:

\_\_\_\_\_  
Chairman, CPC

Date: \_\_\_\_\_

Approved / Not Approved

\_\_\_\_\_  
Chairman, Senate

Date: \_\_\_\_\_