

Indian Institute of Technology Kanpur

Proposal for a New Course

1. **Course Number:** ECO281
2. **Course Title:** Foundations of Financial Systems
3. **Per Week Lectures:** 3 (L), Tutorial: 0 (T), Laboratory: 0 (P), Additional Hours: 0

Credits: $(3*L+T +P+A)$: 9 credits

Duration of Course: Full Semester

4. **Proposing Department:** Economic Sciences
5. **Proposing Instructor:** Bikramaditya Datta
6. **Course Description:**

This course provides a rigorous introduction to the foundations of financial systems, combining economic theory with practical applications. Students will learn to analyse financial decision-making under uncertainty, understand how financial markets function, and evaluate why such markets sometimes fail.

Part I develops the theory of individual financial decision-making: intertemporal choice, decision-making under uncertainty, and behavioural deviations from rationality. Part II examines financial markets: how they enable risk sharing, aggregate information, and allocate capital - and how information asymmetries cause market failures. The course emphasises both the economics of markets (why they work or fail) and the engineering of marketplaces (how they are designed and can be improved).

A) **Objectives:** Upon completion, students will be able to:

1. Analyse personal financial decisions using models of intertemporal choice, risk, and behavioural bias;
2. Evaluate financial products including credit, insurance, and retirement savings vehicles;
3. Explain how financial markets enable risk sharing, price discovery, and information aggregation;
4. Identify when and why markets fail due to adverse selection and moral hazard;
5. Apply economic reasoning and market design principles to real-world financial problems.

B) Contents:

S. No.	Broad Title	Topics	No. of Lectures*
Part I	Financial Decision-Making		
1.	Intertemporal Choice and Lifecycle Planning	Time value of money, savings puzzle, two-period model, lifecycle hypothesis, inflation and money illusion, credit	4
2	Present Bias and Self-Control	Hyperbolic discounting, time inconsistency, commitment devices, projection bias, mental accounting	2
3	Risk, Uncertainty and Portfolio Choice	Expected utility, risk aversion, portfolio choice, insurance demand	4
4	Behavioural Finance and Investment Behaviour	Prospect theory, loss aversion, framing, diversification, overtrading, investor biases	4
Part II	Financial Markets		
5	Trading and Market Design	Order books, market microstructure, high-frequency trading	2
6	Risk Sharing, Securities and Arbitrage	Why markets exist, securitisation, Arrow-Debreu securities, arbitrage principle	4
7	Information Aggregation in Financial Markets	Hayek and the price system, prediction markets, efficient market hypothesis	2
8	Adverse Selection and Moral Hazard in Financial Markets	Hidden information, credit rationing, screening, hidden action, insurance design, monitoring	4

*Duration of each lecture = 75 minutes.

C) Pre-requisites: Probability (HSO201/MSO201/MSO205/CS203).

D) Short summary for including in the Courses of Study Booklet: Analytical foundations of financial systems for students interested in finance, fintech, and policy. Part I covers financial decision-making: intertemporal choice, risk and uncertainty, and behavioural biases. Part II examines financial markets: trading and market design, risk sharing and arbitrage, information aggregation, and market failures from adverse selection and moral hazard. Combines economic theory with practical applications and market design principles.

7. Recommended books:

- 1) Household Financial Management by Sumit Agarwal and Yeow Hwee Chua. World Scientific. 2023.
- 2) Microeconomics for Managers by David Kreps. Princeton University Press. 2nd edition, 2019.
- 3) Intermediate Microeconomics with Calculus by Hal Varian. Norton. 1st edition, 2014.
- 4) Economic and Financial Decisions under Risk by Louis Eeckhoudt, Christian Gollier and Harris Schlesinger. Princeton University Press. 2005.
- 5) Securities Trading: Principles and Procedures by Joel Hasbrouck. 2025. Available online at <https://pages.stern.nyu.edu/~jhasbrou/STPP/STPPindex.html>
- 6) Networks, Crowds and Markets by David Easley and Jon Kleinberg. Cambridge University Press. 2010.
- 7) Development Economics by Debraj Ray. Oxford University Press. 1998.

Dated: January 25, 2026. Proposer: Bikramaditya Datta

Dated: _____ DUGC Convener: _____

The course is approved / not approved

Chairman, SUGC

Dated: _____