

## Development Economics I (HC52)

Core Course - (CC) Credit:6

### Course Objective(2-3)

This is the first part of a two-part course on economic development. The course begins with a discussion of alternative conceptions of development and their justification. It then proceeds to aggregate models of growth and cross-national comparisons of the growth experience that can help evaluate these models. The axiomatic basis for inequality measurement is used to develop measures of inequality and connections between growth and inequality are explored. The course ends by linking political institutions to growth and inequality by discussing the role of the state in economic development and the informational and incentive problems that affect state governance.

### Course Learning Outcomes

This course introduces students to the basics of development economics, with in-depth discussions of the concepts of development, growth, poverty, inequality, as well as the underlying political institutions.

#### Unit 1

##### Conceptions of Development

Alternative measures of development, documenting the international variations in these measures, comparing development trajectories across nations and within them

#### Unit 2

##### Growth Models and Empirics

The Harrod-Domar model, the Solow model and its variants, endogenous growth models, and evidence on the determinants of growth

#### Unit 3

##### Poverty and Inequality: Definitions, Measures and Mechanisms

Inequality axioms; comparison of commonly used inequality measures; connections between inequality and development; poverty measurement; characteristics of the poor; mechanisms that generate poverty traps, and path dependence of growth processes

#### Unit 4

##### Political Institutions and the Functioning of the State

The determinants of democracy; alternative institutional trajectories and their relationship with economic performance; within-country differences in the functioning of state institutions; state ownership and regulation; government failures and corruption

### References

1. A. Banerjee, R. Benabou, D. Mookerjee (eds.): Understanding Poverty, Oxford University Press (2006)
2. P. Bardhan: Awakening Giants, Feet of Clay: Assessing the Economic Rise of China and India, Oxford University Press (2010)
3. K. Basu: The Oxford Companion to Economics in India, Oxford University Press (2007)

4. P. Dasgupta: Economics: A Very Short Introduction, Oxford University Press (2007)
5. A. Deaton: The Great Escape: Health, Wealth and the Origins of Inequality, Princeton University Press (2013)
6. A. Hirschman: Rival Views of Market Society and Other Essays, Ch. 3: "Linkages in Economic Development"
7. Human Development Report, relevant years
8. M. Olson: Big bills left on the sidewalk: Why some nations are rich, and others poor, Journal of Economic Perspectives 10, 3-24 (1996)
9. E. Ostrom: Governing the Commons: The Evolution of Institutions for Collective Action, Cambridge University Press (1990)
10. T. Piketty, E. Saez: Inequality in the long run, Science 344, (2014)
11. D. Ray: Development Economics, Princeton University Press (1998)
12. D. Rodrik: "Fifty Years of Growth (and lack thereof): An Interpretation" (Chapter 1 of One Economics, Many Recipes: Globalization, Institutions and Economic Growth)
13. A. Sen: Development as Freedom, Oxford University Press (2000)
14. A. Shleifer, R. Vishny: Corruption, Quarterly Journal of Economics 108, 599-617 (1993)
15. M. Todaro, S. Smith: Economic Development, Pearson (2015)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Economic development, poverty, inequality

## Development Economics II (HC62)

Core Course - (CC) Credit:6

### Course Objective(2-3)

This is the second course of the economic development sequence. It begins with basic demographic concepts and their evolution during the process of development. The structure of markets and contracts is linked to the particular problems of enforcement experienced in poor countries. The governance of communities and organizations is studied and this is then linked to questions of sustainable growth. The course ends with reflections on the role of globalization and increased international dependence on the process of development.

### Course Learning Outcomes

This course teaches the student various aspects of the Indian economy, as well as important themes relating to the environment and sustainable development. It also introduces them to some issues of globalisation.

### Unit 1

Demography and Development

Demographic concepts; birth and death rates, age structure, fertility and mortality; demographic

transitions during the process of development; gender bias in preferences and outcomes and evidence on unequal treatment within households; connections between income, mortality, fertility choices and human capital accumulation; migration

## Unit 2

### Land, Labour and Credit Markets

The distribution of land ownership; land reform and its effects on productivity; contractual relationships between tenants and landlords; land acquisition; nutrition and labor productivity; informational problems and credit contracts; microfinance; inter- linkages between rural factor markets

## Unit 3

### Environment and Sustainable Development

Defining sustainability for renewable resources; a brief history of environmental change; common-pool resources; environmental externalities and state regulation of the environment; economic activity and climate change

## Unit 4

### Globalisation

Globalisation in historical perspective; the economics and politics of multilateral agreements; trade, production patterns and world inequality; financial instability in a globalised world

## References

1. A. Banerjee, R. Benabou, D. Mookerjee (eds.): Understanding Poverty, Oxford University Press (2006)
2. P. Dasgupta: Economics: A Very Short Introduction, Oxford University Press (2007)
3. C. Kolstad: Intermediate Environmental Economics, Oxford University Press (2012)
4. G. Meier, J. Rauch: Leading Issues in Economic Development, Oxford University Press (2005)
5. W. Nordhaus: The Climate Casino, Yale University Press (2013)
6. R. Rajan: Fault Lines: How Hidden Fractures Still Threaten the World Economy, (2010)
7. D. Ray: Development Economics, Princeton University Press (1998)
8. D. Rodrik: The Globalization Paradox: Why Global Markets, States and Democracy Can't Coexist, Oxford University Press (2011)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Demography, development, land, labour, credit, environment, sustainable development

## Course Objective(2-3)

Using appropriate analytical frameworks, this course reviews major trends in economic indicators and policy debates in India in the post-Independence period, with particular emphasis on paradigm shifts and turning points.

### Course Learning Outcomes

At the end of the course, a student should be able to understand the development paradigm adopted in India since independence and evaluate its impact on economic as well as social indicators of progress and well being.

#### Unit 1

Economic development since independence

#### Unit 2

Human Capital: Demography, health and education

#### Unit 3

Growth and Distribution: Poverty, inequality, unemployment and policy interventions

#### Unit 4

International comparisons

### References

Given the topical nature of this course, some readings will change from year to year.

1. P. Balakrishnan: The recovery of India: Economic growth in the Nehru era, *Economic and Political Weekly* 42(45-46), 52-66 (2007)
2. P. Bardhan: *Awakening Giants, Feet of Clay: Assessing the Economic Rise of China and India*, Princeton University Press (2012)
3. K. Basu, A. Maertens: The pattern and causes of economic growth in India, *Oxford Review of Economic Policy* 23, 143-167 (2007)
4. J. Bhagwati, A. Panagariya: *India's Tryst with Destiny*, Collins Business (2012)
5. Centre for Sustainable Employment: *State of working India 2018*, Azim Premji University (2018)
6. S. Desai: Demographic deposit, dividend and debt, *The Indian Journal of Labour Economics* 58, 217-232 (2015)
7. J. Dreze, R. Khera: Recent social security initiatives in India, *World Development* 98, 555-572 (2017)
8. J. Dreze, A. Sen: *India: An Uncertain Glory*, Allen Lane (2013)
9. V. Joshi: *India's Long Road: The Search for Prosperity*, Allen Lane (2016)
10. J. Meenakshi: Trends and patterns in the triple burden of malnutrition in India, *Agricultural Economics* 47, 115-134 (2016)
11. Ministry of Finance: *Universal Basic Income: A Conversation With and Within the Mahatma*, chapter 9 in *Economic Survey*, 172-212 (2016)
12. A. Panagariya, M. Mukim: A comprehensive analysis of poverty in India, *Asian Development Review* 31, 1-52 (2014)
13. Rangarajan Committee: *Report of the Expert Group to Review the Methodology for Measurement of Poverty*, Government of India (2014)
14. V. Rawal, V. Bansal, P. Bansal: *Prevalence of undernourishment in Indian states:*

Explorations based on NSS 68th round data, Economic and Political Weekly 54(15), 35-45 (2019)

15. G. Rodgers: Inequality in the Indian growth regime, Indian Journal of Human Development 12, 134-148 (2018)
16. J. J. Thomas: India's labour market during the 2000s: An overview, in K. Ramaswamy (ed.): Labour, Employment and Economic Growth in India, Cambridge University Press, 21-56 (2014)
17. S. Verick: Female labor force participation and development, IZA World of Labor 2, 1-11 (2018)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Indian economic development, government policy

Indian Economy II (HC61)

Core Course - (CC) Credit:6

## Course Objective(2-3)

This course examines sector-specific policies and their impact in shaping trends in key economic indicators in India. It highlights major policy debates and evaluates the Indian empirical evidence.

### Course Learning Outcomes

At the end of the course, a student should be able to understand the role of economic policies in shaping and improving economic performance in agriculture, manufacturing and services.

### Unit 1

Macroeconomic policies and their impact

### Unit 2

Policies and performance in agriculture

### Unit 3

Policies and performance in industry and services

## References

Given the topical nature of this course, readings will be updated from year to year.

1. R. Anand, K. Kochhar, S. Mishra: Make in India: Which exports can drive the next wave of growth?, IMF working paper, WP/15/119 (2015)
2. R. Banga: Trade facilitation and 'hollowing-out' of Indian manufacturing, Economic and Political Weekly 49(40), 57-63 (2014)
3. A. Basole, D. Basu, R. Bhattacharya: Determinants and impacts of subcontracting: evidence

- from Indias unorganised manufacturing sector, *International Review of Applied Economics* 29, 374-402 (2015)
4. J. Bhagwati, A. Panagariya: *A multitude of labor laws and their reforms in India's Tryst with Destiny*, Collins Business (2012)
  5. Centre for Sustainable Employment: *State of working India 2018*, Azim Premji University (2018)
  6. R. Chanda: *Services for Indian manufacturing*, in M. Dev (ed.): *India Development Report* (2017)
  7. S. Chatterjee, D. Kapur: *Six puzzles in Indian agriculture*, *India Policy Forum* 2016. Vol. 17. 2017.
  8. D. Das, J. Singh, H. Choudhury: *Judicial production of labour market flexibility: Contract labour employment in Indian organised manufacturing* in Hill and Patil (eds.): *Employment Policy in Emerging Economies*, Routledge (2018)
  9. S. Deakin, A. Halder: *How should India reform its labor laws?*, *Economic and Political Weekly* 50(12), 48-55 (2015)
  10. A. Gulati, S. Saini: *25 years of policy tinkering in agriculture*, in R. Mohan (ed.): *India Transformed: 25 Years of Economic Reforms*, Penguin (2017)
  11. R. Kapoor, P. Krishnapriya: *Explaining the contractualisation of Indias workforce*, ICRIER Working Paper 369 (2019)
  12. N. Kumar: *FDI and portfolio investment flows and development: A perspective on Indian experience*, in U. Kapila (ed.): *Indian Eco Since Independence*, 26th edn, Academic Foundation (2015)
  13. Ministry of Finance: *Climate, climate change and agriculture*, chapter 6, in *Economic Survey* 1 (2017)
  14. R. Mohan, P. Ray: *Indian financial sector- structure, trends and turns*, IMF working paper (2017)
  15. M. Panda: *Macroeconomic development and challenges for growth*, in M. Dev (ed.): *India Development Report* (2017)
  16. S. Rajesh Raj, K. Sen: *Some puzzles about firms*, *Economic and Political Weekly*, 51(7), 43-51 (2016)
  17. A. Roychowdhury: *Application of job security laws, workers' bargaining power and employment outcomes in India*, *The Economic and Labour Relations Review* 30, 120-141 (2019)
  18. K. Sen, D. Das: *Where have all the workers gone? The puzzle of declining labour intensity in organised Indian manufacturing*, *Economic and Political Weekly* 50(23), 108-115 (2015)
  19. C. Veeramani, G. Dhir: *Make what in India?*, in M. Dev (ed.): *India Development Report* (2017)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Economic development, sectoral performance, policy analysis

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## Intermediate Macroeconomics I (HC32)

Core Course - (CC) Credit:6

### Course Objective(2-3)

This is the second module of a three-module sequence on Macroeconomics. This course introduces students to formal modeling of the macroeconomy in terms of analytical tools. It discusses various alternative theories of output and employment determination in a closed economy in the short run as well as medium run, and the role of policy in this context. It also introduces students to various microfounded theories of macro behaviour, e.g., consumption and investment behaviour of households and the demand for money generated in the household sector.

### Course Learning Outcomes

This course enables students to analyse the macroeconomic performance of various countries using formal analytical tools. It also allows them to evaluate important macroeconomic policies and their implications.

#### Unit 1

The labour market

Wage determination; wages, prices and employment; natural rate of unemployment; from employment to output

#### Unit 2

Aggregate demand and aggregate supply curves

Derivation of aggregate demand and aggregate and supply curves; interaction of aggregate demand and supply to determine equilibrium output, price level and employment

#### Unit 3

Inflation, unemployment and expectations

Phillips curve; adaptive and rational expectations; policy ineffectiveness debate

#### Unit 4

Microeconomic foundations

Consumption: Keynesian consumption function; Fisher's theory of optimal intertemporal choice; life-cycle and permanent income hypotheses; rational expectations and random-walk of consumption expenditure

Investment: determinants of business fixed investment; residential investment and inventory investment

Demand for money

### References

1. A. Abel, B. Bernanke: Macroeconomics, 9th ed., Pearson Education (2016)
2. O. Blanchard: Macroeconomics, 7th ed., Pearson Education (2018)
3. W. Branson: Macroeconomics: Theory and Policy, 3rd ed, East West Press (2013)
4. R. Dornbusch, S. Fischer, R. Startz: Macroeconomics, 12th ed., McGraw-Hill (2018)
5. C. Jones: Macroeconomics, 4th ed., W. W. Norton (2016)

6. N. Mankiw. Macroeconomics, 9th ed., Worth Publishers (2016)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Aggregate demand, aggregate supply, inflation, unemployment, expectations

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## Intermediate Macroeconomics II (HC42)

Core Course - (CC) Credit:6

### Course Objective(2-3)

This course is a sequel to Intermediate Macroeconomics I. In this course, students are introduced to long run issues like growth, technical progress, economics of ideas, R&D, innovation and knowledge creation. This course also provides insights into modern business cycle analysis. Finally it introduces students to open economy macro issues. At the end, it provides a long run perspective to policy-making by framing policies in a dynamic context.

### Course Learning Outcomes

This course will enable students to combine their knowledge of the working of the macroeconomy with long run economic phenomena like economic growth, technological progress, R&D and innovation. It will also enable students to understand business cycles and the concomitant role of policies.

#### Unit 1

Economic growth

Harrod-Domar model; Solow model; Golden rule, technological progress, economics of ideas, engines of growth, modern theories of endogenous growth

#### Unit 2

Business cycles

Real business cycle theory; new Keynesian models of sticky prices

#### Unit 3

Open economy models

Short-run open economy models; Mundell-Fleming model; exchange rate determination; purchasing power parity; asset market approach; Dornbusch's overshooting model; monetary approach to balance of payments; international financial markets

#### Unit 4

Fiscal and monetary policy



Active or passive; monetary policy objectives and targets; rules versus discretion: time consistency; the government budget constraint; government debt and Ricardian equivalence

## References

1. A. Abel, B. Bernanke: Macroeconomics, 9th ed., Pearson Education (2016)
2. O. Blanchard: Macroeconomics, 7th ed., Pearson Education (2018)
3. C. Jones: Introduction to Economic Growth, 2nd ed. W. W. Norton (2013)
4. R. Dornbusch, S. Fischer, R. Startz: Macroeconomics, 12th ed., McGraw-Hill (2018)
5. C. Jones: Macroeconomics, 4th ed., W. W. Norton (2016)
6. N. Mankiw. Macroeconomics, 9th ed., Worth Publishers (2016)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Economic growth, business cycles, open economy models, fiscal and monetary policy

## Intermediate Microeconomics I (HC31)

Core Course - (CC) Credit:6

## Course Objective(2-3)

The course is designed to provide a sound training in microeconomic theory to formally analyze the behaviour of individual agents. Since students are already familiar with the quantitative techniques in the previous semesters, mathematical tools are used to facilitate understanding of the basic concepts. This course looks at the behaviour of the consumer and the producer and also covers the behaviour of a competitive firm.

## Course Learning Outcomes

The course trains the students of Economics about the basic elements of consumer theory and production theory and the functioning of perfectly competitive market. This course aims to give students a solid grasp of microeconomic analysis at the intermediate-level using mathematical techniques where appropriate.

### Unit 1

Consumer theory

Preference; utility; budget constraint; choice; demand; Slutsky equation; buying and selling; choice under risk and intertemporal choice; revealed preference

### Unit 2

Production, costs and perfect competition

Technology; isoquants; production with one and more variable inputs; returns to scale; short run and long run costs; cost curves in the short run and long run; review of perfect competition

## References

1. B. Bernheim, M. Whinston: Microeconomics, Tata McGraw- Hill (2009)
2. C. Snyder, W. Nicholson: Fundamentals of Microeconomics, Cengage Learning (2010)
3. H. Varian: Intermediate Microeconomics, A Modern Approach, 8th ed., W. W. Norton (2010)

## Additional Resources:

1. T. Bergstrom, H. Varian: Workouts in Intermediate Microeconomics, W. W. Norton (2014)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Consumer theory, producer theory, perfect competition

## Intermediate Microeconomics II (HC41)

Core Course - (CC) Credit:6

### Course Objective(2-3)

This course is a sequel to Intermediate Microeconomics I. The emphasis will be on giving conceptual clarity to the student coupled with the use of mathematical tools and reasoning. It covers general equilibrium and welfare, imperfect markets and topics under information economics.

### Course Learning Outcomes

This course helps the students to understand efficiency of markets and the environment where the the standard market mechanism fails to generate the desirable outcomes. The issues of market imperfection and market failures are important building blocks of this course.

### Unit 1

General equilibrium, efficiency and welfare

Equilibrium and efficiency under pure exchange and production; overall efficiency and welfare economics.

### Unit 2

Market structure and game theory

Monopoly; pricing with market power; price discrimination; peak-load pricing; two-part tariff; monopolistic competition and oligopoly; game theory and competitive strategy.

### Unit 3

Market failure

Externalities; public goods and markets with asymmetric information.

### References

1. M. Osborne: An Introduction to Game Theory, Oxford University Press (2004)
2. C. Snyder, W. Nicholson: Fundamentals of Microeconomics, Cengage Learning (2010)
3. H. Varian: Intermediate Microeconomics, A Modern Approach, 8th ed., W. W. Norton (2010)

### Additional Resources:

1. T. Bergstrom, H. Varian: Workouts in Intermediate Microeconomics, W. W. Norton (2014)

### Teaching Learning Process

Lectures and tutorials.

### Assessment Methods

Internal assessment and final examination as per CBCS rules

### Keywords

General equilibrium, efficiency, welfare, market structure, imperfect competition, externalities, public goods

## Introductory Econometrics (HC43)

Core Course - (CC) Credit:6

### Course Objective(2-3)

This course introduces students to the econometric methods used to conduct empirical analysis in Economics. The course is designed to provide the students with the basic quantitative techniques needed to undertake applied research projects. It also provides the base for more advanced optional courses in econometrics.

### Course Learning Outcomes

Students will learn to estimate linear models using ordinary least squares and make inferences about population parameters. They will also understand the biases created through mis-specified models, such as those that occur when variables are omitted.

### Unit 1

#### Unit 1

Nature and scope of econometrics

### Unit 2

Simple linear regression model: Two variable case

Ordinary least squares estimation of a linear model; properties of estimators; goodness of fit; testing of hypotheses; scaling and units of measurement; confidence intervals; the Gauss-Markov theorem; forecasting and prediction

### Unit 3

Multiple linear regression model

Extension of the single explanatory variable case to a multivariate setting; introducing non-linearities through functions of explanatory variables

### Unit 4

Violations of classical assumptions: Consequences, detection and remedies

Multicollinearity; heteroscedasticity; serial correlation

### Unit 5

Specification Analysis

Omission of a relevant variable; inclusion of irrelevant variable; specification tests.

### References

1. C. Dougherty: Introduction to Econometrics, 4th ed., Oxford University Press (2011)
2. D. Gujarati: Econometrics by Example, 2nd ed., Palgrave Macmillan (2014)
3. D. Gujarati, D. Porter: Essentials of Econometrics, 4th ed., McGraw-Hill (2010)
4. J. Kmenta: Elements of Econometrics, Khosla Publishing House (2008)
5. G. Maddala, K. Lahiri: Introduction to Econometrics, 4th ed., Wiley (2009)
6. J. Wooldridge: Introduction to Econometrics: A Modern Approach, 5th ed., Cengage Learning (2014)

### Teaching Learning Process

Lectures and tutorials

### Assessment Methods

Internal assessment and final examination as per CBCS rules

### Keywords

Regression, least squares, linear models

## Introductory Macroeconomics (HC22)

Core Course - (CC) Credit:6

### Course Objective(2-3)

This is the first module in a three-module sequence that introduces students to the basic concepts of Macroeconomics. Macroeconomics deals with the aggregate economy. This course discusses the preliminary concepts associated with the determination and measurement of aggregate

macroeconomic variable like GDP, savings, investment, money, inflation, and the balance of payments. It also introduces students to simple analytical frameworks (e.g., the IS-LM model) for determination of equilibrium output.

### Course Learning Outcomes

This course aims to develop the broad conceptual frameworks which will enable students to understand and comment upon real economic issues like inflation, money supply, GDP and their interlinkages. It will also allow them to critically evaluate various macroeconomic policies in terms of a coherent logical structure.

#### Unit 1

Introduction to macroeconomics and national income accounting

Basic issues studied in macroeconomics: Measurement of gross domestic product; income, expenditure and the circular flow; real versus nominal GDP; price indices; national income accounting for an open economy; balance of payments: current and capital accounts

#### Unit 2

Money

Functions of money; quantity theory of money; determination of money supply and demand; credit creation; tools of monetary policy

#### Unit 3

Inflation

Inflation and its social costs; hyperinflation

#### Unit 4

The closed economy in the short run

Classical and Keynesian systems; simple Keynesian model of income determination; IS-LM model; fiscal and monetary multipliers.

### References

1. A. Abel, B. Bernanke: Macroeconomics, 9th ed., Pearson Education (2016)
2. O. Blanchard: Macroeconomics, 7th ed., Pearson Education (2018)
3. R. Dornbusch, S. Fischer, R. Startz: Macroeconomics, 12th ed., McGraw-Hill (2018)
4. C. Jones: Macroeconomics, 4th ed., W. W. Norton (2016)
5. N. Mankiw. Macroeconomics, 9th ed., Worth Publishers (2016)

### Teaching Learning Process

Lectures and tutorials

### Assessment Methods

Internal assessment and final examination as per CBCS rules

### Keywords

National income accounting, money, inflation, classical model, Keynesian model

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## Introductory Microeconomics (HC12)

Core Course - (CC) Credit:6

### Course Objective(2-3)

This course is designed to expose the students to the basic principles of microeconomic theory. The emphasis will be on thinking like an economist and the course will illustrate how microeconomic concepts can be applied to analyze real-life situations.

### Course Learning Outcomes

The course introduces the students to the first course in economics from the perspective of individual decision making as consumers and producers. The students learn some basic principles of microeconomics, interactions of supply and demand, and characteristics of perfect and imperfect markets.

#### Unit 1

##### Introduction

What is microeconomics? Scope and method of economics; the economic problem: scarcity and choice; the concept of opportunity cost; the question of what to produce, how to produce and how to distribute output; science of economics; institutions for allocating resources; the basic competitive model; prices, property rights and profits; incentives and information; rationing; positive versus normative analysis

The scientific method; the role of assumptions; models and mathematics; why economists sometimes disagree

Interdependence and gains from trade; specialization and trade; absolute advantage; comparative advantage and trade

#### Unit 2

Supply and demand: How markets work, markets and welfare

Markets and competition; determinants of individual demand/supply; demand/supply schedule and demand/supply curve; market versus individual demand/supply; shifts in the demand/supply curve, demand and supply together; how prices allocate resources; elasticity and its application; controls on prices; taxes and the costs of taxation; consumer surplus; producer surplus and the efficiency of the markets

Application to international trade; comparison of equilibria with and without trade, the winners and losers from trade; effects of tariffs and quotas; benefits of international trade; some arguments for restricting trade

#### Unit 3

##### The Households

The consumption decision - budget constraint, consumption and income/price changes, demand for all other goods and price changes; description of preferences (representing preferences with indifference curves); properties of indifference curves; consumer's optimum choice; income and substitution effects; labour supply and savings decision; choice between leisure and consumption

#### Unit 4

The firm and perfect market structure

Behaviour of profit maximizing firms and the production process; short-run costs and output decisions; costs and output in the long-run

### Unit 5

Imperfect Market Structure

Monopoly and anti-trust policy; government policies towards competition; imperfect competition.

### Unit 6

Input Markets

Labour and land markets: Basic concepts (derived demand, productivity of an input, marginal productivity of labour, marginal revenue product); demand for labour; input demand curves; shifts in input demand curves; competitive labour markets; labour markets and public policy

### References

1. B. Bernheim, M. Whinston: Microeconomics, Tata McGraw-Hill (2009)
2. N. Mankiw: Economics: Principles and Applications, 4th ed., Cengage Learning (2007)

### Teaching Learning Process

Lectures and tutorials

### Assessment Methods

Internal assessment and final examination as per CBCS rules

### Keywords

Supply, demand, elasticity, consumer behaviour, firm behaviour, perfect and imperfect markets

## Mathematical Methods for Economics I (HC11)

Core Course - (CC) Credit:6

### Course Objective(2-3)

This is the first of a compulsory two-course sequence. The objective of this sequence is to transmit the body of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this syllabus. In this course, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general. The level of sophistication at which the material is to be taught is indicated by the contents of the prescribed textbook.

### Course Learning Outcomes

The course hones and upgrades the mathematical skills acquired in school and paves the way for the second semester course Mathematical Methods in Economics II. Collectively, the two papers provide the mathematical foundations necessary for further study of a variety of disciplines including economics, statistics, computer science, finance and data analytics. The analytical tools introduced in this course have applications wherever optimisation techniques are used in business

decision-making. These tools are necessary for anyone seeking employment as an analyst in the corporate world. The course additionally makes the student more logical in making or refuting arguments.

## Unit 1

### Preliminaries

Logic and proof techniques; sets and set operations; relations; functions and their properties; number systems.

## Unit 2

### Functions of one real variable

Graphs; elementary types of functions: quadratic, polynomial, power, exponential, logarithmic; sequences and series: convergence, algebraic properties and applications;

Continuous functions: characterisations, properties with respect to various operations and applications;

Differentiable functions: characterisations, properties with respect to various operations and applications;

Second and higher order derivatives: properties and applications.

## Unit 3

### Single-variable optimization

Geometric properties of functions: convex functions, their characterisations and applications; local and global optima: geometric characterisations, characterisations using calculus and applications

## Unit 4

### Linear algebra

Vector spaces: algebraic and geometric properties, scalar products, norms, orthogonality; linear transformations: properties, matrix representations and elementary operations; systems of linear equations: properties of their solution sets; determinants: characterization, properties and applications.

## References

1. K. Sydsaeter, P. Hammond: Mathematics for Economic Analysis, Pearson Educational (2002)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Sets, functions, continuity, differentiability, vector space, linear mappings

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## Mathematical Methods for Economics II (HC21)

Core Course - (CC) Credit:6

### Course Objective(2-3)

This course is the second part of a compulsory two-course sequence. This part is to be taught in Semester II following the first part in Semester I. The objective of this sequence is to transmit the body of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this syllabus. In this course, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general. The level of sophistication at which the material is to be taught is indicated by the contents of the prescribed textbook.

### Course Learning Outcomes

The course provides the mathematical foundations necessary for further study of a variety of disciplines including postgraduate economics, statistics, computer science, finance and data analytics. The analytical tools introduced in this course have applications wherever optimization techniques are used in business decision-making for managers and entrepreneurs alike. These tools are necessary for anyone seeking employment as an analyst in the corporate world.

#### Unit 1

Functions of several real variables

Geometric representations: graphs and level curves; differentiable functions: characterisations, properties with respect to various operations and applications; second order derivatives: properties and applications; the implicit function theorem, and application to comparative statics problems; homogeneous and homothetic functions: characterisations and applications

#### Unit 2

Multivariate optimisation

Convex sets; geometric properties of functions: convex functions, their characterisations, properties and applications; further geometric properties of functions: quasiconvex functions, their characterisations, properties and applications; unconstrained optimisation: geometric characterisations, characterisations using calculus and applications; constrained optimisation with equality constraints: geometric characterisations, Lagrange characterisation using calculus and applications; properties of value function: envelope theorem and applications

#### Unit 3

Linear programming

Introduction, graphical solution, matrix formulation, duality, economic interpretation

#### Unit 4

Integration, differential equations, and difference equations

Definite integrals, indefinite integrals and economic applications; first order difference equations, equilibrium and its stability; first order differential equations, phase diagrams and stability

### References

1. K. Sydsaeter, P. Hammond: Mathematics for Economic Analysis, Pearson Educational (2002)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Functions of several real variables, multivariate optimisation, linear programming, integration, differential equations, and difference equations

## Statistical Methods for Economics (HC33)

Core Course - (CC) Credit:6

### Course Objective(2-3)

The course teaches students the basics of probability theory and statistical inference. It sets a necessary foundation for the econometrics courses within the Honours programme. The familiarity with probability theory will also be valuable for courses in advanced microeconomic theory.

### Course Learning Outcomes

At the end of the course, the student should understand the concept of random variables and be familiar with some commonly used discrete and continuous distributions of random variables. They will be able to estimate population parameters based on random samples and test hypotheses about these parameters. An important learning outcome of the course will be the capacity to analyse statistics in everyday life to distinguish systematic differences among populations from those that result from random sampling.

### Unit 1

Introduction and overview

The distinction between populations and samples and between population parameters and sample statistics.

### Unit 2

Elementary probability theory

Sample spaces and events; probability axioms and properties; counting techniques; conditional probability and Bayes' rule; independence

### Unit 3

Random variables and probability distributions

Defining random variables; probability distributions; expected values and functions of random variables; properties of commonly used discrete and continuous distributions (uniform, binomial, exponential, Poisson, hypergeometric and Normal random variables)

### Unit 4

Random sampling and jointly distributed random variables

Density and distribution functions for jointly distributed random variables; computing expected values of jointly distributed random variables; covariance and correlation coefficients

### Unit 5

Point and interval estimation

Estimation of population parameters using methods of moments and maximum likelihood procedures; properties of estimators; confidence intervals for population parameters

### Unit 6

Hypothesis testing

Defining statistical hypotheses; distributions of test statistics; testing hypotheses related to population parameters; Type I and Type II errors; power of a test; tests for comparing parameters from two samples

### References

1. J. Devore: Probability and Statistics for Engineers, 8th ed., Cengage Learning (2012)
2. R. Larsen, M. Marx: An Introduction to Mathematical Statistics and its Applications, Prentice Hall (2011)
3. I. Miller, M. Miller: J. Freund's Mathematical Statistics with Applications, 8th ed., Pearson (2017)

Teaching Learning Process

Lectures and tutorials

### Assessment Methods

Internal assessment and final examination as per CBCS rules

### Keywords

Population parameters, sample statistics, probability, statistical inference

## Applied Econometrics (HE55)

Discipline Specific Elective - (DSE) Credit:6

### Course Objective(2-3)

The course assumes that students have a basic knowledge of statistics, mathematics as well as basic econometric theory. It builds on the compulsory Introductory Econometrics course and teaches students a broad set of commonly used econometric methods. These include estimating models with limited dependent variables and the use of instrumental variables to estimate models with endogenous regressors.

Course Learning Outcomes

Students will learn the theoretical basis for techniques widely used in empirical research and

consider their application in a wide range of problems.

### Unit 1

Stages in empirical econometric research

### Unit 2

The linear regression model: estimation, specification and diagnostic testing: estimation, specification and inference

### Unit 3

Advanced topics in regression analysis: dynamic econometric models, instrumental variable estimation, measurement errors

### Unit 4

Panel data models and estimation techniques: pooled regression, fixed and random effects models

### Unit 5

Limited dependent variables: logit and probit models for binary responses, tobit models for truncated data.

### Unit 6

Introduction to econometric software; publicly available data sets and software will be used to estimate models and apply the techniques learned in class

### References

1. D. Gujarati: Econometrics by Example, 2nd ed., Palgrave Macmillan (2014)
2. D. Gujarati, D. Porter: Basic Econometrics, 5th ed., McGraw-Hill (2012)
3. J. Wooldridge: Introduction to Econometrics: A Modern Approach, 5th ed., Cengage Learning (2014)

Teaching Learning Process

Lectures and tutorials

### Assessment Methods

Internal assessment and final examination as per CBCS rules

### Keywords

Regression, instrumental variables, panel data

## Course Objective(2-3)

This course analyses key aspects of Indian economic development during the second half of British colonial rule. In doing so, it investigates the mechanisms that linked economic development in India to the compulsions of colonial rule.

## Course Learning Outcomes

By analysing the history of industrialisation and economic transition, students will be able to visualise economic development in a historical perspective and assimilate material from a diverse range of opinions. It will help them to think in an interdisciplinary manner and therefore aid them in jobs where developing and presenting comparative perspectives are key tasks.

### Unit 1

Introduction and overview of the countries selected for case studies - Britain, Japan, USSR, and USA.

### Unit 2

Agriculture, agrarian and land relations and agrarian surplus in industrialisation and economic development

### Unit 3

The industrialisation process

### Unit 4

The factory system and making of the industrial working class

### Unit 5

The role of the state in industrial and developmental transition

## References

Some readings may be updated from year to year. Material for the course will be drawn from the following sources.

1. R. Davies: chapters 1, 2, 3, 4, 5, 6, 7, 8, in *Soviet Economic Development from Lenin to Khrushchev*, Cambridge University Press (1998)
2. M. Dobb: chapter 17, in *Soviet Economic Development since 1917*, Routledge, Reprinted in (2012) (1966)
3. J. Hughes, L. Cain: chapters 2, 3, 7, 21, in *American Economic History*, 4th edn, Harper Collins College Publishers (1994)
4. Y. Hayami: chapters 1, 3, in *A Century of Agricultural Growth in Pre-War Japan: Its Relevance to Asian Development*, University of Minnesota Press (1975)
5. E. Hobsbawm: chapters 1, 2, 3, 5, 6, 12, in *Industry and Empire: An Economic History of Britain since 1750*, Weidenfeld & Nicholson (1968)
6. E. Hobsbawm: chapter 11, in *Worlds of Labour: Further Studies in the History of Labour*, Weidenfeld & Nicholson (1984)
7. C. Johnson: chapter 1, in *MITI and the Japanese Miracle: The Growth of Industrial Policy 1925-1975*, Stanford University Press (1982)

8. W. Macpherson: chapters 1, 2, 3, 4, 6, in *The Economic Development of Japan 1868-1941*, Cambridge University Press (1995)
9. E. Norman: chapters 3, 4, in *Japan's Emergence as a Modern State: Political and Economic Problems of the Meiji Period*, University of British Columbia Press (2007)
10. K. Okochi, B. Karsh, S. Levine: chapter 13, in *Workers and Employees in Japan: The Japanese Employment Relations System*, International ed., Princeton University Press (1974)
11. G. Paul, C. Robert: chapter 4, 7, in *Soviet Economic Structure and Performance*, 3rd edn., Harper and Row (1990)
12. M. Tauger: Soviet peasants and collectivization 1930-39: resistance and adaptation, *Journal of Peasant Studies* 31: 3-4. 427-456 (2004)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Land relations, agrarian surplus, industrialisation, role of the state

## Economic History of India 1857-1947 (HE56)

Discipline Specific Elective - (DSE) Credit:6

### Course Objective(2-3)

This course analyses key aspects of Indian economic development during the second half of British colonial rule. In doing so, it investigates the mechanisms that linked economic development in India to the compulsions of colonial rule.

### Course Learning Outcomes

The course develops critical analytical skills and exposes students to understanding the intricacies of India's economic, political and social developments both in the past and present times. It increases their employability by enhancing their ability to deal with a variety of textual and statistical sources, and to draw upon them to construct a coherent argument. These skills would be useful in a variety of careers in academics, research, journalism and the government.

### Unit 1

Colonial India: background and introduction

### Unit 2

Trends in national income, population; labour and occupational structure

### Unit 3

Agriculture, agrarian structure and land relations

### Unit 4

## Railways and industry

### Unit 5

#### Economy and state in the imperial context

#### References

Some readings may be updated periodically. Material for the course will be drawn from the following sources

1. G. Balachandran: Colonial India and the world economy. C. 1850-1940, in L. Chaudhary, B. Gupta, T. Roy, A. Swami (eds.): A New Economic History of Colonial India, Routledge (2016)
2. D. Bogart, L. Chaudhary: Railways in colonial India: an economic achievement?, in L. Chaudhary, B. Gupta, T. Roy, A. Swami (eds.): A New Economic History of Colonial India, Routledge (2016)
3. L. Chaudhary, B. Gupta, T. Roy, A. Swami: Agriculture in colonial India, in L. Chaudhary, B. Gupta, T. Roy, A. Swami (eds.): A New Economic History of Colonial India, Routledge (2016)
4. K. Chaudhuri: Foreign trade and balance of payments (1757-1947), in D. Kumar, T. Raychaudhari (eds.): Cambridge Economic History of India 1757-c.1970 2, Orient Longman (1982)
5. S. Guha: Mortality decline in early 20th century India, Indian Economic and Social History Review 28(4), 371-87 (1991)
6. L. Jain: Indigenous credit instruments and systems, in M. Kudaisya (ed.): The Oxford India Anthology of Business History, Oxford University Press (2011)
7. I. Klein: When rains fail: Famine relief and mortality in British India, Indian Economic and Social History Review 21, 185-214 (1984)
8. J. Krishnamurty: Occupational structure, in D. Kumar, T. Raychaudhari (eds.): Cambridge Economic History of India 1757-c.1970 2, Orient Longman (1982)
9. M. Morris: chapter 11, in Emergence of an Industrial Labour Force in India, Oxford University Press (1965)
10. P. Parthasarathi: Historical issues of deindustrialization in nineteenth century south India, in T. Roy, G. Riello (eds.): How India Clothed the World: The World of South Asian Textiles, 1500-1850 (2009)
11. P. Parthasarathy: chapters 2, 8, in Why Europe Grew Rich and Asia did not: Global Economic Divergence, 1600-1850, Cambridge University Press (2011)
12. R. Ray: Introduction, in R. Ray (ed.): Entrepreneurship and Industry in India 1800-1947, Oxford University Press (1994)
13. T. Roy: chapters 4, 5, 6, in A Business History of India: Enterprise and the Emergence of Capitalism from 1700, Cambridge University Press (2018)
14. T. Roy: chapter 3, 5, 6, and 11, in The Economic History of India 1857-1947, 3rd ed., Orient Longman (2011)
15. D. Washbrook: The Indian economy and the British empire, in D. Peers, N. Gooptu (eds.): India and the British Empire, Oxford University Press (2012)

### Teaching Learning Process

Lectures and tutorials

### Assessment Methods

Internal assessment and final examination as per CBCS rules

### Keywords

Colonial India, railways, agriculture, industry

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## Economics of Health and Education (HE62)

Discipline Specific Elective - (DSE) Credit:6

### Course Objective(2-3)

This is a course in applied economics, which will introduce the students to the study of health and education as components of human capital in the framework of economic theory. The students will learn the role of health and education in human development. They will be able to apply economic theory to understand the demand for health care, market failure in health insurance, economic evaluation of health care programmes and the role of public policy in the healthcare industry. They will also learn to analyse the returns to education, its role in labor market signalling, and the progress of schooling in India. They will also be exposed to the theories of discrimination.

### Course Learning Outcomes

#### Unit 1

Role of health and education in human development: health and education outcomes and their relationship with macroeconomic performance

#### Unit 2

Topics in health economic theory: demand for health, Grossman's model of demand for health, information asymmetry in healthcare demand, and the health insurance market, physician induced demand, adverse selection and moral hazard in health insurance

#### Unit 3

Economic evaluation of health care: cost effectiveness and cost-benefit analysis; valuing life

#### Unit 4

Public policy in the health sector; externalities in health and health care; rationale for government intervention in the health sector

#### Unit 5

Education: investment in human capital; rate of return to education: private and social; quality of education; signalling of human capital; theories of discrimination; gender and caste discrimination in India

#### Unit 6

Education sector in India: an overview

### References

1. J. Bhattacharya, T. Hyde, P. Tu: Health Economics, Palgrave Macmillan (2014)
2. R. Ehrenberg, R. Smith: Modern Labor Economics: Theory and Public Policy, 11th ed., Addison Wesley (2012)



3. World Development Report: Investing in Health, The World Bank (1993)
4. World Health Organisation: The Economics of the Social Determinants of Health and Health Inequalities: A Resource Book, World Health Organisation (2013)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Education, health, economics, India

## Environmental Economics (HE63)

Discipline Specific Elective - (DSE) Credit:6

### Course Objective(2-3)

This course focuses on economic causes of environmental problems. In particular, economic principles are applied to environmental questions viewed as externalities and their management through various economic institutions, economic incentives and other instruments and policies. Methods for analysing economic implications of environmental policy are also addressed as well as the valuation of environmental quality, assessment of environmental damages, and tools needed for the evaluation of projects such as cost-benefit analysis, and environmental impact assessments. Selected topics on international environmental issues are also discussed.

### Course Learning Outcomes

The module aims to introduce students to the main theoretical and empirical concepts in environmental economics, equip students with a thorough analytical grasp of environmental policy theory, ranging from externalities to international environmental agreements, and familiarise students with the main issues in environmental valuation and with the basic features of the environmental policy tools. At the end of the module the students should be able to demonstrate their understanding of the economic concepts of environmental policy. In some models, the student will be required to deal with simple algebra problems that will help them to better understand these concepts, use diagrammatic analysis to demonstrate and compare the economic welfare effects of various environmental policy options, demonstrate their understanding of the usefulness and problems related to environmental valuation, and demonstrate their critical understanding of environmental policies.

#### Unit 1

Introduction: What is environmental economics?; review of microeconomics and welfare economics

#### Unit 2

The theory of externalities: Pareto optimality and market failure in the presence of externalities;

property rights and the Coase theorem

### Unit 3

The design and implementation of environmental policy: overview; Pigouvian taxes and effluent fees; tradable permits; choice between taxes and quotas under uncertainty; implementation of environmental policy

### Unit 4

International environmental problems: trans-boundary environmental problems; economics of climate change; trade and environment

### Unit 5

Measuring the benefits of environmental improvements: non-market values and measurement methods; risk assessment and perception

### Unit 6

Sustainable development: concepts; measurement

### References

1. J. Aldy et al.: Designing climate mitigation policy, *Journal of Economic Literature* 48, 903-934 (2010)
2. M. Cropper, W. Oates: Environmental economics: A survey, *Journal of Economic Literature* 30, 675-740 (1992)
3. G. Heal: Reflections – defining and measuring sustainability, *Review of Environmental Economics and Policy* 6, 147-163 (2012)
4. C. Kolstad: *Intermediate Environmental Economics*, 2nd ed., Oxford University Press (2010)
5. R. Newell, W. Pizer, D. Raimi: Carbon markets 15 years after Kyoto: Lessons learned, new challenges, *Journal of Economic Perspectives* 27, 123-46 (2013)
6. R. Perman, Y. Ma, J. McGilvray, M. Common: *Natural Resource and Environmental Economics*, 3rd ed., Pearson Education/Addison Wesley (2011)
7. R. Stavins (ed.): *Economics of the Environment: Selected Readings*, 5th ed., W. W. Norton (2012)

### Teaching Learning Process

Lectures and tutorials

### Assessment Methods

Internal assessment and final examination as per CBCS rules

### Keywords

Pollution, externalities, natural resources

Financial Economics (HE54)

Discipline Specific Elective - (DSE) Credit:6

Course Objective(2-3)

This course provides a strong theoretical foundation and an economic framework to understand the world of modern finance. Major topics in the course include: time-value of money; fixed-income securities; bond pricing and the term structure of interest rates; portfolio theory and pricing models such as the capital asset pricing model; hedging, speculation, and arbitrage; futures and options contracts; determination of forward and futures prices; trading strategies involving options; binomial trees; and the Black-Scholes-Merton option pricing model

### Course Learning Outcomes

Students acquire extensive theoretical knowledge in portfolio risk management, capital asset pricing, and the operation of financial derivatives. The course familiarises students with the terms and concepts related to financial markets and helps them comprehend business news/articles better. The course also helps to enhance a student's understanding of real life investment decisions. The course has a strong employability quotient given the relatively high demand for skilled experts in the financial sector.

### Unit 1

Investment theory and portfolio analysis: deterministic cash flow streams; basic theory of interest; discounting and present value; internal rate of return; evaluation criteria; fixed-income securities; bond prices and yields; interest rate sensitivity and duration; immunisation; the term structure of interest rates; yield curves; spot rates and forward rates.

Single period random cash flows; mean-variance portfolio theory; random asset returns; portfolios of assets; portfolio mean and variance; feasible combinations of mean and variance; mean-variance portfolio analysis: the Markowitz model and the two-fund theorem; risk-free assets and the one-fund theorem. CAPM: the capital market line; the capital asset pricing model; the beta of an asset and of a portfolio; security market line; use of the CAPM model in investment analysis and as a pricing formula; the CAPM as a factor model, arbitrage pricing theory

### Unit 2

Futures, options and other derivatives: introduction to derivatives and options; forward and futures contracts; options; other derivatives; the use of futures for hedging, stock index futures; forward and futures prices; interest rate futures and duration-based hedging strategies, option markets; call and put options; factors affecting option prices; put-call parity; option trading strategies: spreads; straddles; strips and straps; strangles; the principle of arbitrage; discrete processes and the binomial tree model; risk neutral valuation; stochastic process (continuous variable, continuous time), the Markov property, Itô's lemma; the idea underlying the Black-Scholes-Merton (BSM) differential equation, BSM pricing formulas; the Greek letters

### References

1. R. Brealey, S. Myers, F. Allen, P. Mohanty: Principles of Corporate Finance, 10th ed., Tata McGraw-Hill (2013)
2. J. Hull, B. Basu: Options, Futures, and Other Derivatives, 9th ed., Pearson Education (2017)
3. D. Luenberger: Investment Science, Indian edition (2015)

### Teaching Learning Process

Lectures and tutorials

### Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Finance, economics

## International Trade (HE52)

Discipline Specific Elective - (DSE) Credit:6

### Course Objective(2-3)

The purpose of this course is to inform the basics of international trade theory and to examine the effects of international economic policies on domestic and world welfare. This course develops a systematic exposition of models that try to explain the composition, direction, and consequences of international trade, and the determinants and effects of trade policy. Although the course is based on abstract theoretical models, students will also be exposed to real-world examples and case studies.

### Course Learning Outcomes

The module aims to introduce students to the main theoretical and empirical concepts in international trade, equip students with a thorough analytical grasp of trade theory, ranging from Ricardian comparative advantage to modern theories of intra-industry trade, and familiarise students with the main issues in trade policy and with the basic features of the international trading regime. At the end of the course, the students should be able to demonstrate their understanding of the economic concepts of trade theory. In some models, the student will be required to deal with simple algebraic problems that will help them to better understand these concepts, use diagrammatic analysis to demonstrate and compare the economic welfare effects of free trade and protection, demonstrate their understanding of the usefulness and problems related to topics in international trade, and demonstrate their critical understanding of trade policies.

### Unit 1

Introduction: What is international economics about? An overview of world trade. Stylized facts about international trade

### Unit 2

Neoclassical trade theories: Ricardian trade theory (notion of comparative advantage and gains from trade due to specialisation); an introduction to the distributional effects of trade; the specific factor model; Heckscher-Ohlin theory: Rybczynski and Stolper-Samuelson theorems; Heckscher-Ohlin theorem; factor price equalisation

### Unit 3

New trade theories: external economies of scale, internal economies of scale; the Krugman model; firm heterogeneity; international movement of factors; introduction to the theory of multinational firms

### Unit 4

Trade policy: instruments of trade policy; tariffs, quotas, export subsidies, voluntary export

restraints. The economics of trade policy; political economy of trade policy; controversies in trade policy

## References

1. R. Feenstra, A. Taylor: International Economics, 3rd ed., Worth Publishers (2014)
2. P. Krugman, M. Obstfeld, M. Melitz: International Economics - Theory and Policy, 11th ed., Pearson Education (2018)
3. T. Pugel: International Economics, 16th ed., McGraw-Hill (2015)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

International trade, theories and policy

# Law and Economics (HE67)

Discipline Specific Elective - (DSE) Credit:6

## Course Objective(2-3)

While law is a non-market institution, its functioning impacts markets and non-market outcomes. By shaping incentive structure for the private individuals and the government entities, legal rules play important role in functioning of an economy. Indeed, legal rules can have astounding effects on allocation and use of resources. Besides, legal rules greatly affect the distribution of different forms of wealth. This course will illustrate how legal rules are amenable to economic analysis, and how different legal rules can lead to different outcomes in terms of allocative efficiency and distribution.

## Course Learning Outcomes

This course will familiarise students with the economic approach towards thinking about the law and public policy. Students will come to recognise the law as an important organising force that influences the actions of private citizens as well as government agencies. Students will also learn how the law can support and, at times conflict with, the functioning of the market and the government, the other two important organising forces of an economy. The course will enhance critical thinking and an inter-disciplinary approach towards the law, economics, and policymaking. Thereby, the course will help to develop an inter-disciplinary approach and enhance the employability of students.

## Unit 1

Law and economics: efficiency criteria in welfare economics; Coase theorem; prisoners' dilemma. Contracts; role of contracts for the functioning of markets; efficient contracts; damages measures and their efficiency properties; property rights and their role in resource allocation; Coase theorem; legal remedies for breach of property rights and their economic effects. Liability for accidents and harms; product liability; efficiency of liability rules; efficiency-compensation trade-off. Litigation - its

causes and consequences; benefits of legal certainty

## Unit 2

Law and public policy; land and property; market and non-market mechanisms for allocation and transfer of land; land markets; eminent domain – the land acquisition law; land-pooling. Contracts for provisions of public goods: procurement contracts; government provisions vs. public-private partnerships; cost-quality trade-off. Intellectual Property Rights (IPRs): patents, copyright and trademarks. Cost and benefits of private IPRs; individual rights vs. common good

## References

1. R. Cooter, T. Ulen: Law and Economics, 8th ed., Pearson Series in Economics
2. O. Hart: Incomplete contracts and public ownership: Application to public-private partnerships, The Economic Journal 113, C69-C76 (2003)
3. T. Miceli: The Theory of Eminent Domain: Private Property, Public Use, 2nd ed., Cambridge University Press (2012)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Law, policy, economics

## Money and Financial Markets (HE65)

Discipline Specific Elective - (DSE) Credit:6

### Course Objective(2-3)

This course exposes students to the theory and functioning of the monetary and financial sectors of the economy. It highlights the organisation, structure, and role of financial markets and institutions. It also discusses interest rates, monetary management, and instruments of monetary control. Financial and banking sector reforms and monetary policy with special reference to India are also covered.

### Course Learning Outcomes

This allows students to understand current monetary policies and financial market outcomes. It also enables them to critically evaluate policies.

## Unit 1

Money: concept, functions, measurement; theories of money supply determination.

## Unit 2

Financial institutions, markets, instruments, and financial innovations

Role of financial markets and institutions; problems of adverse selection and moral hazard; financial crises

Money and capital markets: organisation, structure, and reforms in India; role of financial derivatives and other innovations

### Unit 3

Interest rates

Determination; sources of interest rate differentials; theories of term structure of interest rates; interest rates in India

### Unit 4

Banking System

Balance sheet and portfolio management

Indian banking system: changing role and structure; banking sector reforms

### Unit 5

Central banking and monetary policy

Functions, balance sheet; goals, targets, indicators, and instruments of monetary control; monetary management in an open economy; current monetary policy of India.

### References

1. M. Baye, D. Jansen: Money, Banking and Financial Markets, AITBS (2006)
2. L. Bhole, J. Mahukud: Financial Institutions and Markets, 6th ed., Tata McGraw-Hill (2017)
3. F. Fabozzi, F. Modigliani, F. Jones, M. Ferri: Foundations of Financial Markets and Institutions, 4th ed., Pearson Education (2010)
4. N. Jadhav: Monetary Policy, Financial Stability and Central Banking in India, Macmillan (2009)
5. M. Khan: Indian Financial System, 9th ed., Tata McGraw-Hill (2015)
6. F. Mishkin, S. Eakins: Financial Markets and Institutions, 8th ed., Pearson (2017)
7. R. Mohan: Growth with Financial Stability - Central Banking in an Emerging Market, Oxford University Press (2011)
8. Various latest issues of RBI Bulletins, Annual Reports, Reports on Currency and Finance, and Reports of the Working Group, IMF Staff Papers

### Teaching Learning Process

Lectures and tutorials

### Assessment Methods

Internal assessment and final examination as per CBCS rules

### Keywords

Money, financial institutions, financial innovations, banking, monetary policy

## Open Economy Macroeconomics (HE64)

Discipline Specific Elective - (DSE) Credit:6

### Course Objective(2-3)

This course intends to emphasise on how a country's relations to the rest of the world influence aggregate economic activity, employment, exchange rate and inflation and forms the scope for monetary and fiscal policy. The course includes a thorough introduction to the foreign exchange market and a discussion of world level interactions. A major part of the course deals with the dynamic effects (effects over time) of economic shocks and policies. The course prepares the student for taking part in professional discussions about the design of monetary and fiscal policy and for any kind of work where it is important to have a good understanding of macroeconomic fluctuations (e.g. for making predictions of macro variables, for choosing investment where the return depend on macro developments) when the economies are open

### Course Learning Outcomes

The student will know how exchange rates, interest rates and capital movements between currencies are determined within different institutional settings for monetary policy (e.g. inflation targeting versus money supply targeting or exchange rate targeting), how a country's current account balance is determined, or, which amounts to the same, how capital movements between countries are determined, how shocks emanating abroad or in the foreign exchange market affect output, employment, inflation and interest rates, how the effects of changes in fiscal and monetary policy and shifts in private sector behaviour are modified through the foreign exchange markets and foreign trade, the role of cost competitiveness in the determination of economic activity, the different responses to economic shocks in the traded-goods and non-traded goods sectors of the economy, how the effects of policy actions and economic shocks are transmitted from country to country in the world economy, and the merits of different exchange rate systems (fixed versus flexible, monetary unions). In particular, you will learn more about the effects over time as flows accumulate to stocks and as the economy moves towards long-run equilibrium. At the end of course the will acquire to analyze the effects of macroeconomic events on the future time path of the economy, analyse how forces inherent in the initial state of the economy will tend to change the economy over time, discuss how current and future events may influence the exchange rate through expectations, and come up with policy suggestions and consider their effects over time

### Unit 1

Open-Economy Macroeconomics and Exchange Rates: National Income accounting and balance of payment; Exchange Rates and the Foreign Exchange Market; Money, Interest Rates, and Exchange Rates; Price Levels and the Exchange Rate in the Long Run; Output and the Exchange Rate in the Short Run; Fixed Exchange Rates and Foreign Exchange Intervention

### Unit 2

International Macroeconomic Policy: International Monetary Systems: An Historical Overview; Financial Globalization: Opportunity and Crisis; Optimum Currency Areas and the Euro; Developing Countries: Growth, Crisis, and Reform

### References

1. R. Feenstra, A. Taylor: International Economics, 3rd ed., Worth Publishers (2014)
2. P. Krugman, M. Obstfeld, M. Melitz: International Economics – Theory and Policy, 11th ed.,



Pearson Education (2018)

3. T. Pugel: International Economics, 16th ed., McGraw-Hill Education

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Open economy, international economics, exchange rate

## Political Economy I (HE57)

### Discipline Specific Elective - (DSE) Credit:6

#### Course Objective(2-3)

This course explores the systemic structures and institutions of capitalist economies and their evolution in a political economic framework. Students will be exposed to alternative schools of thought and are expected to read some classic texts and commentaries as well as more contemporary essays on the subject.

#### Course Learning Outcomes

This course prepares the students to develop critical thinking by exposing them to elements of economic thought, juxtaposing ideas and theoretical structures based largely on original texts and journal articles. Students learn to assimilate from a diverse range of opinions and crystallize their own thought processes and standpoints. This also helps them to develop advanced writing, presentation and research skills. It further enables them to comprehend a larger view of the world around us by analysing the existing social and political structures and their links with the economic processes. It is thus a crucial course, which exposes the social science dimension of economics to the students and also provides them skills to think and analyse in an interdisciplinary manner. The exposure to interdisciplinary thinking further enables the students for pursuing studies in diverse related areas such as development studies, economic sociology, critical geography, gender studies and social work as also for taking up employment in organisations ranging from international development agencies to development NGOs and corporate CSR. It also prepares the students to face the practical world of work, where economics, business, civil society organisations, social institutions and politics often cohabit in a complex interlinked structure.

#### Unit 1

Analysing Social Change in Historical Perspective: The method of historical materialism; the transition from feudalism to capitalism; capitalism as a historical process – alternative perspectives.

#### Unit 2

Capitalism as an Evolving Economic System: Basic features; accumulation and crisis; monopoly

capitalism— alternative perspectives.

### Unit 3

The State in Capitalism: The state and the economy – contestation and mutual interdependence; the state as an arena of conflict; imperialism – the basic foundations.

### References

1. P. Baran: The Political Economy of Growth [Chapter 3] Pelican edition (1973)
2. J. Gurley: The materialist conception of history, in R. Edwards, M. Reich, T. Weisskopf (eds.): The Capitalist System, 2nd ed., Prentice-Hall (1978)
3. I. Habib: Capitalism in history, *Social Scientist* 23, 15-31 (1995)
4. D. Harvey: Seventeen Contradictions and the End of Capitalism [Chapter 3], Oxford University Press (2014)
5. R. Heilbroner: The Nature and Logic of Capitalism [Chapter 4], W. W. Norton (1985)
6. R. Heilbroner: Capitalism, in *The New Palgrave Dictionary of Modern Economics*, Macmillan, 1987. Also reprinted in R. Heilbroner, *Behind the Veil of Economics*, W. W. Norton (1988)
7. M. Heinrich: An Introduction to the Three Volumes of Karl Marx's Capital, (English translation by Alexander Locascio), Monthly Review Press (2012)
8. E. Hunt: History of Economic Thought [Chapter 1], M. E. Sharpe, Indian edition, Shilpi Publications (2004)
9. M. Kalecki: Political aspects of full employment, in E. Hunt, J. Schwarz (eds.): *A Critique of Economic Theory*, Penguin Books (1972)
10. O. Lange: Political Economy, Vol. 1 [Chapters 1 and 2], Macmillan (1963)
11. P. Patnaik: Lenin's theory of imperialism today, in K. S. Jomo (ed.): *The Long Twentieth Century: The Great Divergence: Hegemony, Uneven Development and Global Inequality*, Oxford University Press (2006)
12. J. Schumpeter: Capitalism, Socialism and Democracy [Chapters 6, 7 and 8], George Allen and Unwin (1976)
13. A. Shaikh: Economic crises, in T. Bottomore et al. (eds.): *The Dictionary of Marxist Thought*, Oxford University Press; Indian edition, Maya Blackwell (2000)
14. A. Shaikh: Falling rate of profit, in T. Bottomore et al. (eds.): *The Dictionary of Marxist Thought*, Oxford University Press; Indian edition, Maya Blackwell (2000)
15. P. Sweezy: *The Theory of Capitalist Development*, Monthly Review Press (1942)
16. V. Vakulabharanam: The recent crisis in global capitalism: Towards a Marxian understanding, *Economic and Political Weekly* 44, 144-150 (2009)

### Additional Resources:

1. D. Basu: A unified Marxist approach to accumulation and crisis in capitalist economies, Economics Department Working Paper Series, University of Massachusetts Amherst, ScholarWorks@UMass Amherst (2017)
2. J. O'Connor: The meaning of economic imperialism [Pages 101 - 111], in Robert Rhodes (ed.): *Imperialism and Underdevelopment*, Monthly Review Press (1970)

### Teaching Learning Process

Lectures and tutorials

### Assessment Methods

Internal assessment and final examination as per CBCS rules

### Keywords

Feudalism, capitalism, historical perspectives, economic crisis, state, imperialism, creative destruction

## Political Economy II (HE68)

Discipline Specific Elective - (DSE) Credit:6

### Course Objective(2-3)

This course explores some of the fundamental structural changes and dynamics of the advanced capitalist system since the development of Fordism to the contemporary period. Particularly, the course analyses the changes in the organization of production, labour market institutions as well as shifts in corporate, managerial, financial and inter-firm governance structures. It further analyses the role of the state in the era of globalization, by studying both its changed ideological foundation and varied practices. It goes on to examine the social and geopolitical consequences of such fundamental shifts. It also integrates contemporary issues of gender and environment in a political economy framework. Though grounded in political economic traditions, the course also exposes the students to interdisciplinary thought and content. It also offers a layered and contrasting perspective to some of the issues analysed in the core theoretical courses, such as microeconomics and macroeconomics. It also provides a more global and interdisciplinary context for analyzing the issues studied in the compulsory courses on the Indian Economy and Development Economics. Whereas the course is related to the fifth semester DSE course Political Economy I, it is largely a stand-alone independent course and can be pursued without any detailed knowledge of the fifth semester course.

### Course Learning Outcomes

This course exposes the students to the realities of the contemporary world economy and teaches them to develop critical analysis in an integrated and broader political economy framework. It thus enables them to form a more informed view of the world we inhabit by analyzing some of the most contemporary trends and developments from different perspectives. It also exposes the students to interdisciplinary skills and written argumentation, and prepares them for a more holistic research framework. The exposure to interdisciplinary thinking further enables the students for pursuing studies in diverse related areas such as development studies, economic sociology, critical geography, gender studies and social work as also for taking up employment in organisations ranging from international development agencies to development NGOs and corporate CSR. It also prepares the students to face the practical world of work, where economics, business, civil society organisations, social institutions and politics often cohabit in a complex interlinked structure, and employees are expected to comprehend and synthesize materials from diverse sources and perspectives.

### Unit 1

Introduction and Historical Overview: Perspective on political economy with a historical overview: Capitalist development in the pre Second World War period, the 'Golden Age' and later.

### Unit 2

Changing Dynamics of Capitalist Production, Organisational Form and Labour Process: Fordist and Post-Fordist production; The changing dynamics of the organisation of production, markets and labour process; The evolution of the multinational corporations and their economic logic; The

contemporary forms value chain networks and forms of inter-firm governance; The changing nature of employment, job security and labour rights.

### Unit 3

The State in the Era of Globalisation: Ideology, Theory and Practice: Theoretical foundations and ideological underpinnings of the neoliberal state; The neoliberal state in practice: social contradictions, instability, and the nature of resolutions in a globalized world.

### Unit 4

The Changing Role of Finance: The changing role of finance in the dynamics of capital accumulation and the shifts in corporate structure; Financialisation: its nature and consequences.

### Unit 5

The Social Dimension: Globalization and Uneven Development – Growth, inequality and crisis in an uneven geographical spread and its social ramifications.

### Unit 6

Broader Perspectives (Gender and Environment): Dimensions of Gender in work, accumulation and globalization; Political economic issues in environment, sustainability and inequality.

### References

This course will draw upon the following readings:

1. D. Arnold, J. Bongiovi: Precarious, informalising, and flexible work: Transforming concepts and understandings, *American Behavioral Scientist* 57, 289-308 (2013)
2. M. Beaud: A History of Capitalism, 1500-2000 [Chapters 2, 4, 5], Monthly Review Press (2001)
3. J. Boyce: The Political Economy of the Environment [Chapter 4], Edward Elgar (2002)
4. D. Chang: Informalising labour in Asia's global factory, *Journal of Contemporary Asia* 39, 161-179 (2009)
5. R. Dore: Financialisation of the global economy, *Industrial and Corporate Change* 17, 1097-1112 (2008)
6. G. Dumenil, D. Levy: The Crisis of Neoliberalism [Chapter 1], Harvard University Press (2011)
7. M. Elam: Puzzling out the post-Fordist debate: Technology, markets and institutions, in A. Amin (ed.): *Post-Fordism: A Reader*, Blackwell (1994)
8. J. Foster: The Ecological Revolution [Introduction], Monthly Review Press, Indian Impression by Cornerstone Publications (2009)
9. G. Gereffi, J. Humphrey, T. Sturgeon: The governance of global value chains, *Review of International Political Economy* 12, 78-104 (2005)
10. H. Gottfried: Gender, Work and Economy - Unpacking the Global Economy [Chapter 10], Polity Press (2013)
11. D. Harvey: A Brief History of Neoliberalism [Introduction and chapters 1-3], Oxford University Press (2005)
12. S. Hymer: The multinational corporation and the law of uneven development, in H. Radice (ed.): *International Firms and Modern Imperialism*, Penguin Books (1975)
13. N Reddy: Economic globalisation, past and present - The challenges to labour, in K. Jomo, K. Jin (eds.): *Globalization and Its Discontents, Revisited*, Sepsis -Tulika Books (2003)

14. A. Sen: Gender and cooperative conflicts, in I. Tinker (ed.): Persistent Inequalities: Women and World Development, Oxford University Press (1990)
15. F. Tonkiss: Contemporary Economic Sociology: Globalisation, Production, Inequality [Chapter 4], Routledge (2006; India reprint 2008)

#### Additional Resources:

1. G. Dumenil, D. Levy: Capital Resurgent, Roots of the Neoliberal Revolution [Chapter 11], Harvard University Press (2004)
2. P. Evans: Transnational corporations and the Third World states: From old internationalisation to the new, in R. Wright, R. Rowthorn (eds.): Transnational Corporations and the Global Economy, UNU/WIDER, Macmillan Press (1998)
3. R. Vaasudevan: Things Fall Apart, From the Crash of 2008 to the Great Slump [Chapter 3], Sage Publications (2013)

### Teaching Learning Process

Lectures and tutorials

### Assessment Methods

Internal assessment and final examination as per CBCS rules

### Keywords

Fordism, globalisation, MNCs, global value chains, labour flexibility, informalisation, financialisation, corporate governance, neoliberalism, gender, feminisation, environment

## Public Economics (HE53)

Discipline Specific Elective - (DSE) Credit:6

### Course Objective(2-3)

Public economics is the study of government policy from the points of view of economic efficiency and equity. The paper deals with the nature of government intervention and its implications for allocation, distribution and stabilization. Inherently, this study involves a formal analysis of government taxation and expenditures. The subject encompasses a host of topics including public goods, market failures and externalities. The paper is divided into two sections, one dealing with the theory of public economics and the other with the Indian public finances.

### Course Learning Outcomes

The module aims to introduce students to the main theoretical and empirical concepts in public economics, equip students with a thorough analytical grasp of implications of government intervention for allocation, distribution and stabilization, and familiarise students with the main issues in government revenues and expenditure. At the end of the module the students should be able to demonstrate their understanding of the public economics. In some models, the student will be required to deal with simple algebra problems that will help them to better understand these concepts, use diagrammatic analysis to demonstrate and compare the economic welfare effects of various environmental policy options, demonstrate their understanding of the usefulness and problems related to taxation and government expenditure, and demonstrate their critical understanding of public policies

### Unit 1

Public Economic Theory: Fiscal functions: an overview; Public Goods: definition, models of efficient allocation, pure and impure public goods, free riding; Externalities: the problem and its solutions, taxes versus regulation, property rights, the Coase theorem; and Taxation: its economic effects; dead weight loss and distortion, efficiency and equity considerations, tax incidence, optimal taxation

## Unit 2

Indian Public Finances: Tax System: structure and reforms; Budget, deficits and public debt; Fiscal federalism in India

## References

1. S. Alam: GST and the states: sharing tax administrations, *Economic and Political Weekly* 51(31) (2016)
2. J. Cullis, P. Jones: *Public Finance and Public Choice*, 2nd ed., University Press (1998)
3. S. Das: Some concepts regarding the goods and services tax, *Economic and Political Weekly* 52(9) (2017)
4. Government of India: GST - Concept and Status - as on 3rd June, 2017, Central Board of Excise and Customs, Department of Revenue, Ministry of Finance (2017)
5. J. Hindriks, G. Myles: *Intermediate Public Economics*, 2nd ed., MIT Press (2013)
6. M. Rao: Changing contours of federal fiscal arrangements in India, in Amaresh Bagchi (ed.): *Readings in Public Finance*, Oxford University Press (2005)
7. M. Rao, S. Kumar: Envisioning tax policy for accelerated development in India, Working Paper No. 190, National Institute of Public Finance and Policy (2017)
8. J. Stiglitz: *Economics of the Public Sector*, 3rd ed., W. W. Norton (2009)
9. Y. Reddy: Fourteenth finance commission, continuity, change and way forward, *Economic and Political Weekly* 50(21), 27-36 (2015)

## Teaching Learning Process

Lectures and Tutorials

## Assessment Methods

Internal Assessment and Final Exam

## Keywords

Taxation, public expenditure, federal system, India

Research Methodology (HS41)

Skill-Enhancement Elective Course - (SEC) Credit:4

## Course Objective(2-3)

The course begins with the formulation of a research problem and covers the issues concerning the generation of primary sample data. In this regard the designing of a questionnaire, the methods of design of a sample and its size, the modes of data collection from direct interview to online surveys, the appreciation of possible sources of errors, and the cleaning of data forms the

bulk of the classroom instruction.

## Course Learning Outcomes

The course imparts skills to undertake data based research. The student enrolling in this course would develop competency in executing sample surveys and would have reasonable exposure to a variety of secondary data sources.

### Unit 1

Data types and sources: Qualitative and quantity data, measurement and scales; secondary sources of data and institutions

### Unit 2

Sample questionnaires: Measurement and scales; questionnaires

### Unit 3

Sample type and size: Simple random sampling; cluster sampling; stratified sampling and its complications; Determining an appropriate size

### Unit 4

Errors in surveys: Misunderstanding of questions and answers; problem of non-response

### Unit 5

Processing of survey data: Cleaning of data and its coding

### Unit 6

Ethics and scientific integrity: Standards of conduct, privacy in data

## References

1. J. Bethlehem: Applied Survey methods: A statistic
2. W. Cochran: Sampling Techniques, 3rd ed., Wiley India (2008)
3. D. Cooper, P. Schindler, J. Sharma: Business Research Methods, 12th ed., McGraw-Hill (2012)
4. U. Flick: Introducing Research Methodology: A Beginner's Guide to Doing a Research Project, Sage Publications (2012)
5. R. Groves, F. Fowler, M. Couper, J. Lepkowski, E. Singer, R. Tourangeau: Survey Methodology, Wiley (2009)
6. R. Kumar: Research Methodology: A Step by Step Guide for Beginners, 4th ed., Sage Publications (2014)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Data, sampling, surveys

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## Data Analysis (GE31)

Generic Elective - (GE) Credit:6

### Course Objective(2-3)

This is a skill enhancement course for data analysis. The students will be given hands on training on using statistical and computing software to better visualize and understand data concepts. The course is designed to be delivered through 2 classroom lectures and 4 computer lab classes per week.

### Course Learning Outcomes

The course will use data simulations and publicly available data sources to help students learn about data types, their organization and visual representation. They will learn how to compute summary statistics and do some basic statistical inference.

### Unit 1

Introduction to the course: How can the representation and analysis of data help us study real-world problems. Publicly available data sets.

### Unit 2

Using Data: Available statistical software, steps in data storage, organization and cleaning.

### Unit 3

Visualization and Representation: Alternative forms of presenting summarizing and presenting data.

### Unit 4

Simple estimation techniques and tests for statistical inference

### References

1. D. Levine, D. Stephan, K. Szabat: Statistics for Managers using Microsoft Excel, 8th ed., Pearson (2017)
2. P. Tattar, S. Ramaiah, B. Manjunath: A Course in Statistics with R, Wiley (2018)

### Teaching Learning Process

Lectures and tutorials

### Assessment Methods

Internal assessment and final examination as per CBCS rules

### Keywords

Data representation, statistical software, estimation

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## Economic History of India (GE34)

Generic Elective - (GE) Credit:6

### Course Objective(2-3)

This course analyses key aspects of Indian economic development during the second half of British colonial rule. In doing so, it investigates the mechanisms that linked economic development in India to the compulsions of colonial rule.

### Course Learning Outcomes

The course exposes the students to understanding the intricacies of India's economic, political and social developments both in the past and present times. It develops analytical skills, and will be useful in a variety of careers in academics, research, journalism, private sector and government.

#### Unit 1

Colonial India: Background and introduction

#### Unit 2

Macro trends in national income, population, labour and occupational structure

#### Unit 3

Agriculture, agrarian structure and land relations

#### Unit 4

Railways and industry

#### Unit 5

Economy and state in the imperial context

### References

Some readings may be updated from year to year.

1. B. Chatterjee: Trade, Tariffs and Empire, Oxford University Press, Epilogue (1992)
2. L. Chaudhary, B. Gupta, T Roy, A. V. Swami (eds.): Chapters 4, 7, 9, in A New Economic History of Colonial India, Routledge (2016)
3. S. Guha: Mortality decline in early 20th century India, Indian Economic and Social History Review 28(4), 371-87 (1991)
4. I. Habib: Chapter 3, in Indian Economy 1858-1914, A People's History of India 28, Tulika (2006)
5. I. Klein: When Rains Fail: Famine relief and mortality in British India, Indian Economic and Social History Review 21 (2),185-214 (1984)
6. D. Kumar (ed.): Chapters 8,12 in Cambridge Economic History of India c.1751-c.1970 2, Orient Longman (1982)
7. M. Morris: chapter 11, in Summary and Conclusions in Emergence of an Industrial Labour Force in India, Oxford University Press (1965)
8. P. Parthasarathy: chapters 2, 8, in Why Europe Grew Rich and Asia did not: Global Economic Divergence, 1600-1850

- , Cambridge University Press (2011)
9. P. Parthasarathi: Historical Issues of Deindustrialization in Nineteenth Century South India, in T. Roy, G. Riello (eds.): How India Clothed the World: The World of South Asian Textiles, 1500-1850, Brill (2009)
  10. T. Roy: chapters 4, 5, in A Business History of India: Enterprise and the Emergence of Capitalism from 1700, Cambridge University Press (2018)
  11. T. Roy: chapters 3, 11, in The Economic History of India 1857-1947, 3rd edn., Orient Longman (2011)
  12. L. Subramanian: chapter 4, in History of India 1707-1857, Orient Blackswan (2010)
  13. B. Tomlison: India and the British Empire 1880-1935, The Indian Economic and Social History Review 12(14), 337-380 (1975)
  14. D. Washbrook: The Indian Economy and the British Empire, in D. Peers, N. Gooptu (eds.): India and the British Empire, Oxford University Press (2012)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Colonial India, agriculture, industry, demography

## Game Theory (GE44)

Generic Elective - (GE) Credit:6

### Course Objective(2-3)

Game theory is used in various fields, such as economics, biology, business, law, politics, sociology, and computer science. The purpose of this course is to introduce the basics of game theory to undergraduate students in various disciplines. Game Theory introduces the students to optimal decision making under an interactive settings. This course introduces the basic concepts of game theory in a way that allows students to use them in solving simple problems in various disciplines. The course will deal with the solution concepts for normal form and extensive form games along with a variety of applications. Ideas related to asymmetric information among the interacting agents would also be analysed in this course. The course ends with the application of game theory to analyse moral hazard, adverse selection and signalling problems.

### Course Learning Outcomes

The students will learn how to model multi-person decision making in an interactive setting. They will understand how to formulate different real life situations as games and learn to predict the optimal strategies of players and how the players can exploit strategic situations for the benefit of their own.

### Unit 1

Normal form games

The normal form; dominant and dominated strategies; dominance solvability; mixed strategies; Nash equilibrium; symmetric single population games; applications.

### Unit 2

Extensive form games with perfect information

The game tree; strategies; subgame perfection; backward induction in finite games; commitment; bargaining; other applications.

### Unit 3

Simultaneous move games with incomplete information

Strategies; Bayesian Nash equilibrium; applications.

### Unit 4

Extensive form games with imperfect information

Strategies; beliefs and sequential equilibrium; applications.

### Unit 5

Information economics

Adverse selection; moral hazard; signalling games.

### References

1. M. Osborne: An Introduction to Game Theory, Oxford University Press (2004)

### Teaching Learning Process

Lectures and tutorials

### Assessment Methods

Internal assessment and final examination as per CBCS rules

### Keywords

Normal form games, extensive form games, complete information, Nash equilibrium, subgame perfect equilibrium, incomplete information, Bayesian Nash equilibrium, sequential equilibrium

## Global Political Economy (GE43)

Generic Elective - (GE) Credit:6

### Course Objective(2-3)

This generic elective course introduces students to the contemporary structures, trends and developments in the Global Economy through a Political Economy lens. It explores the period since the end of Second World War up to recent global economic crisis – from the ‘Golden age of capitalism’ to the ‘neoliberal’ shift. It particularly explores changes in the organization of production and corporate structure along with changes in labour processes and labour regimes and also the increasing dominance of finance in the contemporary world. It also examines the shifts in the

nature, scope and ideology of the state under globalisation.

## Course Learning Outcomes

This course enables students who have not studied economics at the undergraduate level to develop a critical understanding of the contemporary global economy. It enables them to form a more informed view of the world we inhabit by analyzing some of the economic trends and developments over the last five or six decades. As the economy is a crucial sphere both of social life in general and the world of work in particular, an analytical exposure to the structures, institutions and processes of the global economy will thus enrich their comprehension of the contemporary world. With such a comprehension, students from all backgrounds will thus be better prepared to face the professional world and can use the knowledge base of this course for facing the challenges of group discussions and general interviews for corporate or civil service jobs. Students of other social sciences and humanities, who intend to pursue higher studies and research, will also immensely benefit from this course by being able to develop an interdisciplinary understanding of basic economic structures and processes, which are often crucial to the understanding of their core subjects.

### Unit 1

Introduction and overview: Perspectives on political economy of globalisation with a historical overview.

### Unit 2

Changing dynamics of capitalist production, organisational forms and labour processes: Fordist and post-Fordist production regimes; multinational corporations – evolution, structural form and dynamics; global value chains and production networks; the changing nature of employment, job security and labour rights in a globalised economy.

### Unit 3

The political economy of global trade: Structure and institutions of the international trade regime

### Unit 4

The role of finance in the globalised economy: financialisation of the global economy – trends, instruments, features and consequences

### Unit 5

The state in the era of globalisation: Globalisation and the limits of the welfare and developmental states; the neoliberal state.

### Unit 6

Global economic instability and crisis: The 2008 global economic crisis – prelude, proximate and long term causes; possibility of recurring crises.

## References

1. A. Bhaduri: Nationalism and economic policy in the era of globalization, in Deepak Nayyar (ed.): *Governing Globalization: Issues and Institutions*, OUP (2002)
2. D. Chang: Informalising labour in Asia's global factory, *Journal of Contemporary Asia* 39,

- 161-179 (2009)
3. R. Dore: Financialization of the global economy, *Industrial and Corporate Change* 17, 1097–1112 (2008)
  4. D. Harvey: *A Brief History of Neoliberalism* (Introduction and Chapter 3), OUP (2005)
  5. S. Hymer: The multinational corporation and the law of uneven development, in H. Radice (ed.): *International Firms and Modern Imperialism*, Penguin Books. (1975)
  6. D. Nayyar: Globalisation and development, in H.-J. Chang (ed.): *Rethinking Development Economics*, Anthem Press (2003)
  7. N. Reddy: Economic globalisation, past and present – The Challenges to Labour, in K. Jomo and K. Jin (eds): *Globalization and Its Discontents, Revisited*, Sepsis -Tulika Books (2003)
  8. D. Rodrik: *The Globalization Paradox: Why Global Markets, States and Democracy Can't Coexist* (Chapter 4), OUP (2011)
  9. E. Thun: The globalization of production, in John Ravenhill (ed.): *Global Political Economy*, OUP, Chapter 11 (2011)
  10. F. Tonkiss: *Contemporary Economic Sociology: Globalisation, Production, Inequality*, Chapter 4 (Fordism and After), Routledge (2006) (India reprint 2008)
  11. V. Vakulabharanam: The recent crisis in global capitalism: Towards a Marxian understanding, *Economic and Political Weekly* 44, 144-150 (March 28, 2009)
  12. Y. Varoufakis: *The Global Minotaur: America, the True Origins of the Financial Crisis and the Future of the World Economy*, Zed Books(2011)
  13. G. Winham: The evolution of the global trade regime, in J. Ravenhill (ed.): *Global Political Economy*, OUP (2011)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Fordism, globalisation, MNCs, global production networks, labour flexibility, informalisation, global trade regime, financialisation, state under globalisation, neoliberalism, economic crisis

## Indian Economy I (GE33)

Generic Elective - (GE) Credit:6

## Course Objective(2-3)

This course reviews major trends in aggregate economic indicators in India and places these against the backdrop of major policy debates in India in the post-independence period.

## Course Learning Outcomes

This course will help students understand the key issues related to the Indian economy. It will broaden their horizons and enable them to analyze current economic policy thus improving their chances of getting employed, and be more effective, in positions of responsibility and decision making.

The course also serves as the base for further study of sector specific policy discussion that is pursued in the course in the next semester.

### Unit 1

Issues in Growth, Development and Sustainability

### Unit 2

Factors in development: Capital formation (physical and human); technology; institutions

### Unit 3

Population and economic development: Demographic trends; urbanisation

### Unit 4

Employment: Occupational structure in the organised and unorganised sectors; open-, under- and disguised- unemployment (rural and urban); employment schemes and their impact

### Unit 5

Indian development experience: Critical evaluation of growth, inequality, poverty and competitiveness, pre- and post- reform eras

### References

Given the current nature of the course, the readings will be updated every year. Selected chapters will be prescribed from:

1. P. Agrawal (ed.): Sustaining High Growth in India, Cambridge University Press (2018)
2. P. Balakrishnan: The Recovery of India: Economic Growth in the Nehru Era, Economic and Political Weekly, 42(45-46), 52-66 (2007)
3. D. Bloom: Population Dynamics in India and Implications for Economic Growth in C. Ghate (ed.): The Oxford Handbook of the India Economy, Oxford University Press (2012)
4. K. Case and R. Fair: Chapter 31 in Principles of Economics, 8th edn. (2007)
5. J. Dreze, A. Sen: India: An Uncertain Glory, Allen Lane (2013)
6. U. Kapila: Economic Development and Policy in India, Academic Foundation (2009)
7. U. Kapila: India Economy Since Independence, 26th ed., Academic Foundation (2015)
8. S. Mehrotra: Realising the Demographic Dividend, Policies to achieve Inclusive Growth in India, Cambridge University Press (2015)
9. Ministry of Finance: Economic Survey (latest)
10. Ministry of Finance: Finance Commission Report (latest)
11. R. Mohan: Pressing the Indian Growth Accelerator: Policy Imperatives, IMF papers (2014)
12. M. Todaro, S. Smith: Economic Development, 11th ed., Pearson (2011)
13. United Nations Development Programme: Human Development Report 2010, Palgrave Macmillan (2010)

### Teaching Learning Process

Lectures and tutorials

### Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Indian economic development, government policy

## Indian Economy II (GE42)

Generic Elective - (GE) Credit:6

### Course Objective(2-3)

The course seeks to equip students with sector-specific knowledge and skills to analyse key economic issues and policy documents. It will also enable them to relate theoretical frameworks of macroeconomics and microeconomics to the Indian context.

### Course Learning Outcomes

Students will have capability to understand government policies and will enable informed participation in economic decision making, thus improving their employment prospects and career advancement.

### Unit 1

Macroeconomic policies and their Impact: Fiscal, financial and monetary policies

### Unit 2

Agriculture: Policies and performance; production and productivity; credit; labour; markets and pricing; land reforms; regional variations.

### Unit 3

Industry: Policies and performance; production trends; small scale industries; public sector; foreign investment, labour regulation

### Unit 4

Services and trade: Trends and performance; trade and investment policy

### References

Given the nature of the course, readings will be updated every year.

1. T. Anant: Institutional reforms for agriculture growth, in N. Majumdar, U. Kapila (eds.): Indian Agriculture in the New Millennium, Changing Perceptions and Development Policy, vol. 2, Academic Foundation (2006)
2. P. Balakrishnan: The great reversal: A macro story, Economic and Political Weekly 49 (21), 29-34 (2014)
3. A. Bhaduri: Productivity and production relations: The case of Indian agriculture, in A. Bhaduri (ed.): Employment and Development, Oxford University Press (2012)
4. J. Bhagwati, A. Panagariya: A multitude of labour laws and their reforms, in India's Tryst with Destiny, Collins Business (2012)
5. R. Chanda: services led growth, in K. Basu and A. Maertens (eds.): New Oxford Companion to Economics in India,

- Oxford University Press (2012)
6. S. De: Fiscal Policy in India, Trends and Trajectory, Ministry of Finance Working Paper (2012)
  7. M. Dev: Agricultural development, in K. Basu, A. Maertens (eds.): New Oxford Companion to Economics in India, Oxford University Press (2012)
  8. S. Dev, N. Rao: Agricultural price policy, Farm Profitability and Food Security, , Economic and Political Weekly 45 (26-27), 174-181 (2010)
  9. B. Dhar: India's new foreign trade policy, Economic and Political Weekly 50 (16), 14-16 (2015)
  10. M. Ghatak: Land reforms, in K. Basu, A. Maertens (eds.): New Oxford Companion to Economics in India, Oxford University Press (2012)
  11. A. Gulati, S. Saini: 25 years of policy tinkering in agriculture, in R. Mohan (ed.): India Transformed: 25 Years of Economics Reforms, Penguin (2017)
  12. K. Kanagasabapathy, V. Tilak, R. Krishnaswamy: A rethink on India's foreign trade policy, Economic and Political Weekly 48 (31), 137-139 (2013)
  13. N. Kumar: FDI and portfolio investment flows and development: A perspective on Indian experience, in U. Kapila (ed.): Indian Economy Since Independence, 29th edn. Academic Foundation (2018-19)
  14. Ministry of Finance: Clothes and shoes: Can India reclaim small scale manufacturing?, in Economic Survey 2016-17, 1.
  15. R. Nagaraj: Economic reforms and manufacturing sector growth, Economic and Political Weekly 52 (2), 61-68 (2017)
  16. P. Nayak: Privatization, in K. Basu and A. Maertens (eds.): New Oxford Companion to Economics in India, 12-14 (2012)
  17. M. Panda: Macroeconomic scenario and policy options, in M. Dev (ed.): India Development Report 2017, Oxford University Press (2017)
  18. A. Vaidyanathan: Irrigation, in K. Basu, A. Maertens (eds.): New Oxford Companion to Economics in India, Oxford University Press (2012)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Indian economic development, government policy

## Introductory Macroeconomics (GE21)

Generic Elective - (GE) Credit:6

## Course Objective(2-3)

This course aims to introduce the students to the basic concepts of Macroeconomics. Macroeconomics deals with the aggregate economy. This course discusses the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variable like GDP, savings, investment, money, inflation, and the balance of payments. It also introduces students to simple analytical frameworks (e.g., the IS-LM model) for determination of



equilibrium output.

## Course Learning Outcomes

This course will allow students to understand the basic functioning of the macroeconomy.

### Unit 1

Introduction to macroeconomics and national income accounting

Basic issues studied in macroeconomics; measurement of gross domestic product; income, expenditure and the circular flow; real versus nominal GDP; price indices; national income accounting for an open economy; balance of payments: current and capital accounts

### Unit 2

Money

Functions of money; quantity theory of money; determination of money supply and demand; credit creation; tools of monetary policy

### Unit 3

Inflation

Inflation and its social costs; hyperinflation

### Unit 4

The closed economy in the short run

Classical and Keynesian systems; simple Keynesian model of income determination; IS-LM model; fiscal and monetary multipliers

## References

1. A. Abel, B. Bernanke: Macroeconomics, 9th ed., Pearson Education (2016)
2. O. Blanchard: Macroeconomics, 7th ed., Pearson Education (2018)
3. R. Dornbusch, S. Fischer, R. Startz: Macroeconomics, 12th ed., McGraw-Hill (2018)
4. C. Jones: Macroeconomics, 4th ed., W. W. Norton (2016)
5. N. Mankiw. Macroeconomics, 9th ed., Worth Publishers (2016)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

GDP, BOP, money, inflation, classical model, Keynesian model

Introductory Microeconomics (GE11)

Generic Elective - (GE) Credit:6

Course Objective(2-3)

This course is designed to expose the students to the basic principles of microeconomic theory. The emphasis will be on thinking like an economist and the course will illustrate how microeconomic concepts can be applied to analyze real-life situations.

## Course Learning Outcomes

The course introduces the students to the first course in Economics from the perspective of individual decision making as consumers and producers. The students learn some basic principles of microeconomics, interactions of supply and demand and characteristics of perfect and imperfect markets.

### Unit 1

#### Introduction

What is microeconomics? Scope and method of economics; the economic problem: scarcity and choice; the concept of opportunity cost; the question of what to produce, how to produce and how to distribute output; science of economics; Institutions for allocating resources; the basic competitive model; prices, property rights and profits; incentives and information; rationing; positive versus normative analysis. The Scientific method; the role of assumptions; models and mathematics; why economists sometimes disagree. Interdependence and gains from trade; specialisation and trade; absolute advantage; comparative advantage and trade

### Unit 2

#### Supply and demand: Markets and welfare

Markets and competition; determinants of individual demand/supply; demand/supply schedule and demand/supply curve; market versus individual demand/supply; shifts in the demand/supply curve, demand and supply together; how prices allocate resources; elasticity and its application; controls on prices; taxes and the costs of taxation; consumer surplus; producer surplus and the efficiency of the markets. Application to international trade; comparison of equilibria with and without trade, the winners and losers from trade; effects of tariffs and quotas; benefits of international trade; some arguments for restricting trade.

### Unit 3

#### The households

The consumption decision - budget constraint, consumption and income/price changes, demand for all other goods and price changes; description of preferences (representing preferences with indifference curves); properties of indifference curves; consumer's optimum choice; income and substitution effects; labour supply and savings decision - choice between leisure and consumption

### Unit 4

#### The Firm and Perfect Market Structure

Behaviour of profit maximizing firms and the production process; short run costs and output decisions; costs and output in the long run

### Unit 5

#### Imperfect Market Structure

Monopoly and anti-trust policy; government policies towards competition; imperfect competition

## Unit 6

### Input Markets

Labour and land markets - basic concepts (derived demand, productivity of an input, marginal productivity of labour, marginal revenue product); demand for labour; input demand curves; shifts in input demand curves; competitive labour markets; and labour markets and public policy

### References

1. B. Bernheim, M. Whinston: Microeconomics, Tata McGraw-Hill (2009)
2. N. Mankiw: Economics: Principles and Applications, 4th ed., Cengage Learning (2007)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Supply, demand, elasticity, consumer behaviour, firm behaviour, perfect and imperfect markets

## Money and Banking (GE32)

Generic Elective - (GE) Credit:6

### Course Objective(2-3)

This course highlights the organization, structure and role of financial markets and institutions. It also discusses interest rates, monetary management and instruments of monetary control. Financial and banking sector reforms and monetary policy with special reference to India are also covered.

### Course Learning Outcomes

This course exposes students to the theory and functioning of the monetary and financial sectors of the economy.

### Unit 1

#### Money

Concept, functions, measurement; theories of money supply determination.

### Unit 2

#### Financial institutions, markets, instruments and financial innovations

Role of financial markets and institutions; problem of asymmetric information – adverse selection and moral hazard; financial crises.

Money and capital markets: organisation, structure and reforms in India; role of financial derivatives and other innovations

### Unit 3

Interest rates

Determination; sources of interest rate differentials; theories of term structure of interest rates; interest rates in India

### Unit 4

Banking system

Balance sheet and portfolio management.

Indian banking system: Changing role and structure; banking sector reforms.

### Unit 5

Central banking and monetary policy

Functions, balance sheet; goals, targets, indicators and instruments of monetary control; monetary management in an open economy; current monetary policy of India

### References

1. L. Bhole, J. Mahukud: Financial Institutions and Markets, 6th ed., Tata McGraw-Hill (2017)
2. F. Fabozzi, F. Modigliani, F. Jones, M. Ferri: Foundations of Financial Markets and Institutions, 4th ed., Pearson Education (2010)
3. M. Khan: Indian Financial System, 9th ed., Tata McGraw-Hill (2015)
4. F. Mishkin, S. Eakins: Financial Markets and Institutions, 8th ed., Pearson (2017)
5. Various latest issues of R. B. I. Bulletins, Annual Reports, Reports on Currency and Finance and Reports of the Working Group, IMF Staff Papers

Teaching Learning Process

Lectures and tutorials

### Assessment Methods

Internal assessment and final examination as per CBCS rules

### Keywords

Money, financial institutions, financial innovations, interest rate, banking, monetary policy

Public Finance (GE41)

Generic Elective - (GE) Credit:6

### Course Objective(2-3)

This course is a non-technical overview of government finances with special reference to India. The course does not require any prior knowledge of economics. It will look into the efficiency and

equity aspects of taxation of the centre, states and the local governments and the issues of fiscal federalism and decentralisation in India. The course will be useful for students aiming towards careers in the government sector, policy analysis, business and journalism.

### Course Learning Outcomes

The module aims to introduce students to the main concepts in public finance, equip students with a thorough analytical grasp of government taxes: direct and indirect taxes, and familiarise students with the main issues in government expenditure. At the end of the module the students should be able to demonstrate their understanding of the economic concepts of public finances, use diagrammatic analysis to demonstrate and compare the economic welfare effects of various government policy options, and demonstrate their understanding of the usefulness and problems related to government revenues and expenditures.

### Unit 1

Theory: Overview of Fiscal Functions, Tools of Normative Analysis, Pareto Efficiency, Equity and the Social Welfare; Market Failure, Public Good and Externalities; Elementary Theories of Product and Factor Taxation (Excess Burden and Incidence)

### Unit 2

Issues from Indian Public Finance: Working of Monetary and Fiscal Policies; Current Issues of India's Tax System; Analysis of Budget and Deficits; Fiscal Federalism in India; State and Local Finances

### References

1. S. Alam: GST and the states: sharing tax administrations, *Economic and Political Weekly* 51(31) (2016)
2. J. Cullis, P. Jones: *Public Finance and Public Choice*, 2nd ed., Oxford University Press (1998)
3. S. Das: Some concepts regarding the goods and services tax, *Economic and Political Weekly*, 52(9), (2017)
4. Government of India: *GST - Concept and Status - as on 3rd June, 2017*, Central Board of Excise and Customs, Department of Revenue, Ministry of Finance (2017)
5. J. Hindriks, G. Myles: *Intermediate Public Economics*, 2nd ed., MIT Press (2013)
6. M. Rao: Changing contours of federal fiscal arrangements in India, in Amaresh Bagchi (ed.): *Readings in Public Finance*, Oxford University Press (2005)
7. M. Rao, S. Kumar: *Envisioning tax policy for accelerated development in India*, National Institute of Public Finance and Policy, Working Paper No. 190 (2017)
8. Y. Reddy: Fourteenth finance commission - continuity, change and way forward, *Economic and Political Weekly* 50, 27-36 (2015)
9. J. Stiglitz: *Economics of the Public Sector*, 3rd ed., W. W. Norton (2009)

### Teaching Learning Process

Lectures and tutorials

### Assessment Methods

Internal assessment and final examination as per CBCS rules

### Keywords

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## Contemporary Economic Issues (HS42)

### Skill-Enhancement Elective Courses (SEC) - Credit: 4

#### Course Objective(2-3)

The course seeks to familiarize students with basic concepts related to the Economic Survey and Union Budget. It aims to equip students with sufficient knowledge and skills to analyse these documents.

#### Course Learning Outcomes

Students will have the capability to understand government policies and will in general be informed participants in economic decision making.

#### Unit 1

##### Concepts

- Fiscal policy, areas of government spending in India
- Capital and revenue expenditure, plan and non-plan expenditures
- Deficits (fiscal, primary, revenue), impact of fiscal deficits on the economy
- Capital receipts, revenue receipts, tax and non-tax revenue, direct and indirect taxes, need for rationalisation of tax structure, Goods and Services Tax (GST)
- Actual, revised and budget estimates
- Zero-base budgeting
- Gender budgeting
- Fiscal devolution and centre-state financial relations

#### Unit 2

##### The economic survey

- Analysis of current and past policy emphasis

#### Unit 3

##### The union budget

- Need for the budget, understanding the process of budget making in India
- Analysis of fiscal and revenue deficits
- Analysis of sources of revenue and expected growth in revenue, tax simplification, improvement in administration, expansion of tax net and other measures to improve revenue receipts,
- Analysis of expenditure pattern and expected growth in expenditure, thrust areas of budget, sectors that have received higher/lower shares of expenditure, the reasons and consequences thereof, steps proposed to ensure effective spending

#### References

Given the nature of the course, the readings will be updated every year.

1. Centre for Budget and Governance Accountability: Recent reports
2. P. Chakraborty: Intergovernmental fiscal transfers in India, emerging trends and realities, in

- P. Patnaik (ed.): Macroeconomics, Oxford University Press (2015)
3. D. Dasgupta, S. De: Fiscal deficit, The New Oxford Companion to Economics in India, Oxford University Press (2012)
  4. U. Kapila: Fiscal and budgetary developments, in Indian economy since independence, Academic Foundation (2016)
  5. Ministry of Finance: Economic and social classification of the budget
  6. Ministry of Finance: Economic survey (latest). Various chapters
  7. Ministry of Finance: Finance Commission report (latest)
  8. Ministry of Finance: Union Budget
  9. P. Mukherjee: Budget making, in K. Basu, A. Maertens (eds.): The New Oxford Companion to Economics in India, Oxford University Press (2012)
  10. S. Mukherjee: Present state of goods and services tax (GST) reform in India, Working Paper No. 154. National Institute of Public Finance and Policy (2015)
  11. Y. Reddy: Continuity, change and the way forward: The fourteenth finance commission, Economic and Political Weekly 50(21), 27-36 (2015)
  12. M. Spiegel: chapter 19, in Theory and Problems of Probability and Statistics (2003)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Union budget, economic survey, government policy

## Data Analysis (HS31)

Skill-Enhancement Elective Courses (SEC) - Credit: 4

### Course Objective(2-3)

This is a skill enhancement course for data analysis. The students will be given hands on training on using statistical and computing software to better visualize and understand data concepts. The course is designed to be delivered through 2 classroom lectures and 4 computer lab classes per week.

### Course Learning Outcomes

The course will use data simulations and publicly available data sources to help students learn about data types, their organization and visual representation. They will learn how to compute summary statistics and do some basic statistical inference.

### Unit 1

Introduction to the course: How can the representation and analysis of data help us study real-world problems. Publicly available data sets.

### Unit 2

Using Data: Available statistical software, steps in data storage, organisation and cleaning

### Unit 3

Visualisation and Representation: Alternative forms of presenting summarising and presenting data.

### Unit 4

Simple estimation techniques and tests for statistical inference

### References

1. D. Levine, D. Stephan, K. Szabat: Statistics for Managers using Microsoft Excel, 8th ed., Pearson (2017)
2. P. Tattar, S. Ramaiah, B. Manjunath: A Course in Statistics with R, Wiley (2018)

### Teaching Learning Process

Lectures and tutorials

### Assessment Methods

Internal assessment and final examination as per CBCS rules

### Keywords

Data representation, statistical software, estimation

## Game Theory (HE51)

Discipline Specific Elective - (DSE) Credit:6

### Course Objective(2-3)

Game theory introduces the students to optimal decision making in interactive settings. This course will deal with the solution concepts for normal form and extensive form games, along with a variety of applications. Ideas related to asymmetric information among the interacting agents will also be analysed in this course. The course ends with the application of game theory to analyse moral hazard, adverse selection and signalling problems.

### Course Learning Outcomes

The students will learn how to model multi-person decision making in an interactive setting. They will understand how to formulate different real life situations as games and learn to predict the optimal strategies of players and how the players can exploit strategic situations for their own benefit.

### Unit 1

Normal form games

The normal form; dominant and dominated strategies; dominance solvability; mixed strategies; Nash equilibrium; symmetric single population games; applications.



## Unit 2

Extensive form games with perfect information

The game tree; strategies; subgame perfection; backward induction in finite games; commitment; bargaining; other applications.

## Unit 3

Simultaneous move games with incomplete information

Strategies; Bayesian Nash equilibrium; applications.

## Unit 4

Extensive form games with imperfect information

Strategies; beliefs and sequential equilibrium; applications.

## Unit 5

Information economics

Adverse selection; moral hazard; signalling games.

## References

1. M. Osborne: An Introduction to Game Theory, Oxford University Press (2004)

## Teaching Learning Process

Lectures and tutorials

## Assessment Methods

Internal assessment and final examination as per CBCS rules

## Keywords

Normal form games, extensive form games, complete information, Nash equilibrium, subgame perfect equilibrium, incomplete information, Bayesian Nash equilibrium, sequential equilibrium