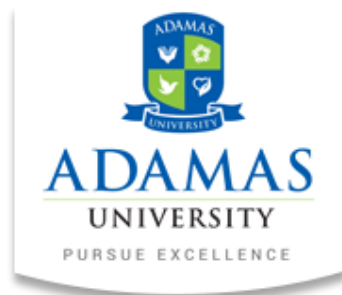


**MASTER OF SCIENCE
IN
ECONOMICS**

**Course Structure
and
Syllabus Book
2017-2019**



Preamble

Having attained a basic knowledge of the subject in the undergraduate honours programme, when a student decides to take admission in the post-graduate Economics programme, it indicates her/his urge to go into the greater depth of the discipline of Economics. Keeping in line with such spirit, we provide opportunities for advanced skill learning related to both theoretical modeling as well as empirical researchers.

The first year attempts to teach the students the basic fundamentals of economics, like microeconomics, macroeconomics, mathematical economics, econometric methods, development economics and Indian economic development in a more rigorous manner. The idea is to begin with the undergraduate standards and build the reasoning power of the students towards the recent advancements in each paper. This will prepare them to adopt advanced research works in the frontiers if they wish to pursue higher academics in future.

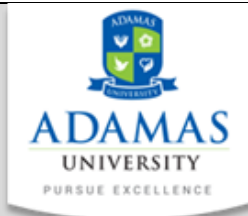
Along with such emphasis on the core papers, we address the historical developments of the subject itself, thereby retracing the chronological developments in theory. Papers like the political economy or the history of economic ideas serve this purpose. For, the various forces that helped to shape the trajectory of economic theory will assist the students to have a comprehensive understanding of modern society and reveal before them the contradictions in it. This, we hope, will urge them in the path of resolution of such contradictions towards a better society. The second-year syllabus has a much more goal-oriented approach. It introduces the students to some new fields that have gained prominence in recent years like institutional economics or international economics and finance. Also, they are made conscious of the heterodox approaches that have challenged the positivist methodology of economics, through papers like economics of social issues.

Finally, the students are made to choose any one stream of specialization among the three that are offered in the course structure. These streams, via detailed learning of five papers for each, will prepare them for research and industry purposes over the two semesters. 'Applied economics' will provide them with the technical know-how to be ready for various corporate jobs related to data analysis, programming and academic research work as well. 'Economics of public policy' will help them to specialize in the fields of policy-making by Government on health, education, and resources and *finally*, 'Banking and Finance' will target the job skills required in the banking and other financial sectors.

Thus, we claim that in our post-graduation courses, we impart knowledge to our students that are not limited to the theoretical areas essential for academic research, but also prepare them for the market needs of a fast-growing service-sector dependent globalized country like India. Our students, we promise, will cater to the abstract as well as technical skills so that they are able to make themselves employable in near future adding to the global market structure. That, to be precise, is the vision of the department and, as a whole, our institution.

Currently this M.Sc. in Economics course is offered with the following eligibility criteria-

Eligibility: B.Sc. (in 10+2+3 structure) in any discipline with Economics in UG level, from any recognized university in India or abroad



SCHOOL OF ECONOMICS & COMMERCE

POST GRADUATE PROGRAMME STRUCTURE

(UNDER CHOICE BASED CREDIT SYSTEM)

M.Sc. in ECONOMICS

SEMESTER 1

SL. NO	TYPE OF COURSE	COURSE CODE	TITLE OF THE COURSE	Contact Hours per Week				REMARKS
				L	T	P	C	
01	HC	CEC51101	ADVANCED MICROECONOMICS	3	1	0	4	
02	HC	CEC51103	ADVANCED MACROECONOMICS	3	1	0	4	
03	HC	CEC51105	MATHEMATICAL ECONOMICS	3	1	2	4	
04	HC	CEC51107	HISTORY OF ECONOMIC THOUGHT	3	1	0	4	
05	HC	CEC51109	INSTITUTIONAL ECONOMICS	3	1	0	4	
SUB TOTAL							20	

SEMESTER 2

06	HC	CEC51102	POLITICAL ECONOMY OF DEVELOPMENT	3	1	0	4	
07	HC	CEC51104	INTERNATIONAL TRADE	3	1	0	4	
08	HC	CEC51106	INDIAN ECONOMY IN THE GLOBAL CONTEXT	3	1	0	4	
09	HC	CEC51108	ECONOMETRIC METHODS	3	1	2	4	
10	HC	CEC51110	TOOLS FOR QUANTITATIVE & QUALITATIVE RESEARCH	3	0	2	4	
11	INT	CEC51612	INTERNSHIP	One Month			4	
SUB TOTAL							24	

SEMESTER 3

12	HC	CEC52101	GLOBALIZATION AND CONTEMPORARY ISSUES OF DEVELOPMENT	3	1	0	4	
13	SC		SOFT CORE (Paper-A)	3	1	0	4	
14	SC		SOFT CORE (Paper-B)	3	1	0	4	
15	SC		SOFT CORE (Paper-C)	3	1	0	4	
16	OE		OPEN ELECTIVE	3	1	0	4	Optional
SUB TOTAL							20	

SEMESTER 4

17	HC	CEC52102	INTERNATIONAL FINANCE	3	1	0	4	
18	HC	CEC52104	ECONOMICS OF SOCIAL ISSUES	3	1	0	4	
19	SC		SOFT CORE (Paper-D)	3	1	0	4	
20	SC		SOFT CORE (Paper-E)	3	1	0	4	
21	MDS	CEC52718	DISSERTATION	-	6	-	6	
22	OE		OPEN ELECTIVE	3	1	0	4	
SUB TOTAL							22	
TOTAL REQUIRED CREDIT							86	

Notes: HC: Hard Core Course; SC: Soft Core Course; SEC: Skill Enhancement Course; OE: Open Elective Course; INT: Internship; MDS: Masters Dissertation

Soft Core Courses (SC):

Soft Core Courses are offered in Semester III and Semester IV. Students are required to specialize in one stream during second year. They need to opt for **any one stream** from the list below. Under each stream five papers will be taught.

List of Specialization:

This list is amendable subject to availability of faculty resource and university infrastructure.

1. Applied Economics
2. Economics of Public Policy
3. Banking & Finance

List of Soft Core Courses under Each Specialization

Applied Economics			Economics of Public Policy			Banking & Finance		
Paper	Paper Name	Code	Paper	Paper Name	Code	Paper	Paper Name	Code
SEMESTER III								
A	Statistical Inference and Estimation Methods	CEC52105	A	Economics of Public Health	CEC52111	A	Financial Institutions and Market	CEC52117
B	Advanced Econometric Methods	CEC52107	B	Economics of Private Health Market	CEC52113	B	Principles of Modern Banking	CEC52119
C	Econometric Analysis of Data	CEC52109	C	Economics of Education	CEC52115	C	Corporate Finance	CEC52121
SEMESTER IV								
D	Multivariate Data Analysis	CEC52106	D	Economics of Natural Resources	CEC52110	D	Principles of Investment Banking	CEC52114
E	Analysis of Big Data	CEC52108	E	Environmental Regulation and Valuation	CEC52112	E	Security Analysis and Portfolio Management	CEC52116

FIRST YEAR

Semester I

CEC51101
ADVANCED MICROECONOMICS
[HC: 4 Credits, 60 Contact Hours]

This course aims at a clear understanding of the micro foundations of modern economic theory. Consumption and production are to be taught based on the principle of self-interest maximization, at the individual level. Next, the two aspects are to be integrated in a perfectly competitive market framework. Finally, the theorization is to be produced towards various market imperfections like externalities, asymmetric information and others

Unit 1: Theory of Consumer Behavior

History of utility theory (Shift from Cardinal to Ordinal Approach); Classical demand theory: Preference relation, their properties, the utility Functions, homothetic preference, utility maximization, indirect utility functions, Roy's Identity, expenditure minimization, Hicksian demand, duality, income Effect, substitution effect and Slutsky equation; theory of revealed preference: WARP, SARP, compensating and equivalent variations; intertemporal choice, time preference, utility maximization, discounted value; choice under uncertainty, expected utility function, attitude towards risk

Unit 2: Theory of Firm

Production Sets, input requirement sets and production functions, returns to scale and homogeneity; Cost minimization, properties of cost functions, Input demand functions and Shephard's Lemma, Duality between cost and production functions, short run and long run cost functions; duality between cost and production functions, short run and long run cost functions; Factor market: marginal productivity theorem, labour market, envelope theorem, Eulers theorem

Unit 3: Market: Partial Equilibrium Analysis

Perfect Competition: Profit maximization and profit functions, input demand Functions and Hotelling's Lemma, Short run profit maximization: break-even and shut down points, short run market equilibrium and the supply function, Long run supply, market equilibrium under perfect competition: short and long runs, Stability of equilibrium, comparative static: exogenous changes and impact of policy, Imperfect completion: Monopoly- output and price, price discrimination, social costs; Monopolistic competition, features, equilibrium, Chamberlain, Robinson models; Oligopoly: features, equilibrium, Cournot, Bertrand, Stackleberg models

Unit 4: General Equilibrium Analysis and Welfare Economics

From partial to general equilibrium framework; The basic model: Edgeworth Box analysis of an exchange economy, equilibrium (Existence, uniqueness, stability), the general structure - Walras'

Law, Pareto Optimality, concept of core - Core equivalence theorem; Welfare economics: from Pigou to Pareto, Fundamental Theorems of Welfare Economics, Equity- efficiency trade-off, Compensation criteria, social welfare function, theory of second best

Unit 5: Market Failure

Externalities: Positive, negative, consumption, production; Solutions: government interventions, Coase Theorem; Public goods: optimality, overproduction, Lindahl equilibrium, Asymmetric information

Unit 6: Economics of Information & Game Theory

Introduction to Game Theory, Simultaneous games: Dominant and dominated strategies, Nash equilibrium, Dynamic games: sequential rationality, backward induction, sub-game perfection, incomplete information games: Adverse selection, signaling, moral hazard, screening, principal-agent problem, Bayesian Nash equilibrium

References:

- Microeconomic Theory. Andreu Mas-colell, Michael D. Whinston, and Jerry R. Green John. Oxford University Press India; 1st edition (2012)
- Microeconomic Analysis. Hal R. Varian. W W Norton & Company; 3rd edition (2010)
- Microeconomics. H. Gravelle, R. Rees. Pearson India; 3rd edition (2007)
- Advanced Microeconomic Theory. Geoffrey A. Jehle, Philip J. Reny. Pearson India; 2nd or later edition
- Microeconomics: Theory and Applications. Anindya Sen. Oxford University Press; 2nd edition (2006)
- Microeconomic Theory: Basic Principles and Extensions. Walter Nicholson and Christopher Snyder. Cengage; 11th edition (2014)
- An Introduction to Game Theory. M. J. Osborne. Oxford University Press India; 1st edition (2012)
- Game Theory: An Introduction. E. N Barron. Wiley India Pvt. Ltd.; (2009)

HEC51103

ADVANCED MACROECONOMICS

[HC: 4 Credits, 60 Contact Hours]

This course will explore at a deeper level some of the topics of open economy macroeconomics and study other research topics in macroeconomics. This course will take students through models of aggregate demand and aggregate supply, consumption behavior,

investment behavior, macroeconomics of developing countries, overlapping generation model and its application

Unit 1: Open Economy Macroeconomics

Balance of payments, Exchange rate systems, Fixed vs. Flexible Exchange Rate; Perfect and Imperfect Capital Mobility; Mundell-Fleming model: Monetary and Fiscal Policy; Expectations and Exchange Rates, Monetary approach to Balance of Payments

Unit 2: Aggregate Demand & Supply

Models of aggregate supply, Phillips curve, Adaptive and Rational Expectations, Policy evaluation and the Lucas critique, New classical analysis, Real business cycles

Unit 3: Consumption Behaviour

Permanent Income and Life cycle theories, Consumption Theory and Hall's Random Walk

Unit 4: Investment Behaviour

Neoclassical theory, Tobin's q, Imperfect information and investment

Unit 5: Macroeconomics of Developing Countries

World Bank- IMF model; Structural Change and Unbalanced Growth; Financial Repression; Exchange Rate Dynamics; International Financial Markets and Financial Crises

Unit 6: The Overlapping Generations Model

The Ramsey-Cass-Koopmans Model; The Overlapping Generations Model (OLG model) or the Diamond model

References:

- Lectures on Macroeconomics. Blanchard and Fischer. Phi Learning; 1st edition (2009)
- Advanced Macroeconomics. David Romer. Tata McGraw - Hill Education; 4th edition (2011)
- Macroeconomics: Theories & Policies. R. Froyen. Pearson Education; 10th Edition (2013)
- Rudiger Dornbusch, Stanley Fischer and Richard Startz, Macroeconomics, 7th (or later) edition, McGraw Hill.
- Macroeconomic Theory & Policy. Amit Bhaduri. Setu Prakashani (2014)
- Analytical Development Economics: The Less Developed Economy Revisited. Kaushik Basu. Oxford University Press India; 1st edition (2010)
- Advanced Macroeconomics (Volume 1 & 2). K. R. Gupta. Atlantic; 2nd edition (2010)
- Macroeconomics for Developing Countries. Raghendra Jha. Taylor & Francis Ltd; 2nd Revised edition (2003)
- Introduction to Economic Growth. Charles I Jones. Viva Books; 2nd edition (2013)

CEC51105
MATHEMATICAL ECONOMICS
[HC: 4 Credits, 60 Contact Hours]

The course is intended to deliver knowledge of mathematical techniques suitable for economic analysis. It assumes some prerequisite knowledge of mathematics, albeit the approach is lucid and aims to show students how to do and apply the mathematics they require for a successful study of economics. Economic applications are considered to map successful application of mathematics in economics. Topics covered include optimization techniques, real analysis, and linear algebra, differential equations

Unit 1: Introduction to Real Analysis

The Real Number System, Basic Notions of Set Theory, Limits and Continuity, Derivatives

Unit 2: Introduction to Linear Algebra

Vector Spaces, Linear Transformations, Matrices, Linear Equations and Determinants

Unit 3: Static Optimization I

Unconstrained Optimization, Real-Valued Functions of Several Variables, Second Order Conditions, Economic Applications

Unit 4: Static optimization II

Classical Constrained Programming, Kuhn Tucker Formulation, Envelope Theorem, Economic Applications

Unit 5: Differential Equations and Stability Issues

Differential Equations, Stability Theory, Phase Diagrams

Unit 6: Dynamic Optimization

The Nature of Dynamic Optimization, Alternative Approaches to Dynamic Optimization, Optimal Control Theory

References:

- Mathematics for Economists. Carl P. Simon, L Blume. Viva Norton (Student edition). Reprint 2015.
- Essential Mathematics for Economic Analysis. Knut Sydsaeter, Peter J. Hammond and Arne Strøm. Pearson India; 4th edition (2013).

- Optimization in Economic Theory. Avinash K. Dixit. Oxford University Press; 2nd Revised edition (2010)
- Linear Algebra. Hadley. Narosa Book Distributors (2002)
- Real Analysis. H. L. Royden. Prentice Hall India, 4th edition (2011)
- Fundamental Methods of Mathematical Economics. A. C. Chiang, and Wainwright. McGraw Hill Education (India) Private Limited; 4th edition (2013)
- Elements of Dynamic Optimization. Chiang, Alpha. C. Sarat Book Distributors (2012)
- Mathematical Optimization and Economic Theory. Michael D. Intriligator. PHI Learning (SIAM); 2012
- Linear Algebra - A Geometric Approach. Ted Shifrin, Malcolm Adams., W. H. Freeman (2010)
- Optimization and Stability Theory for Economic Analysis. Beavis & Dobbs. Cambridge University Press (1990)

CEC51107
HISTORY OF ECONOMIC THOUGHT
[HC: 4 Credits, 60 Contact Hours]

This course retraces the development of structure of economic thought since the birth of modernity. It emphasizes the socio-economic context in which the specific mode of thought has arisen from and shows the historical specificity of the age of modern capitalism. The laissez-faire doctrine of classical economics gives way to marginalist neoclassical economics which is met with confrontation in the form of the structuralist Keynesian economics. Marx on the other hand shows the way out through his method of dialectics and paves the path for unity of theory and practice.

Unit 1: Birth of Modern Thought

Enlightenment, Western modernity, colonialism, Imperialism, Orientalism, dualism, determinism

Unit 2: Classical political economy

Mercantilism, physiocracy, classical political economy, Adam Smith and the labour theory of value, concept of laissez faire, Ricardo

Unit 3: Marx

Critique of political economy, subject and objectivity, dialectics, unity of theory and practice, mode of productions, historical materialism, overdetermination, class as a entry point

Unit 4: Neoclassical economics

Marginalist revolution, positivism, partiality, empirical-practical aspects, rejection of labour theory, utility theory, subjectivist approach, general equilibrium theory vs partial equilibrium approach

Unit 5: Keynesianism

Structuralism, reverse causality, critique of Says law and classical economics, the idea of ‘animal spirit’ and investment theory, the money market, speculative demand for money, uncertainty and expected rate of profit.

Unit 6: Recent advancements

Critique of rationalism and empiricism, relativist epistemology, heterodoxy, pluralism in economics

References:

1. Schumpeter (1954): History of Economic Analysis, Harvard University Press
2. Screpanti & Zamagni (2005): An Outline of the History of Economic Thought, OUP
3. Blaug (1983): Economic Theory in Retrospect (3/e), Vikas Publishing, New Delhi
4. Resnick and Wolffe, 1987, Knowledge and Class: A Marxian Critique of Political Economy, University of Chicago Press

CEC51109 **INSTITUTIONAL ECONOMICS** **[HC: 4 Credits, 60 Contact Hours]**

The main objective of this course is to understand how the role of the evolutionary process and the role of institutions are shaping economic behaviour. It helps to understand the social systems, or "institutions," that constrain the use and exchange of resources (goods and services) and their consequences for economic performance. It makes us to understand how a country's institutions can encourage or prevent the efficient use of a society's human and natural resources.

Unit 1: Preliminaries of Institutional Economics

The concept of Institutions in the institutional economics; Criticism of Mainstream Economics; Adam Smith's "The Theory of the Moral Sentiments"; The pragmatic philosophy of William James, Development of customs traditions and mores as regulators of social conduct; Development of legal institutions

Unit 2: Introduction to Institutional Analysis

Critic to mainstream economics; Old Institutional Economics; New Institutional Economics; Institutions and organizations; Modern institutionalism

Unit 3: Transaction Costs

The concept of transaction; Market and intra-firm transactions; Economics of Contracts; Theory of Bargaining

Unit 4: Economic Theory of Property Rights

The definition of property rights; Property rights in different Laws/traditions; The property rights approach: some basic concepts; The Coase Theorem; Private property; Moral and economic aspects of private property; Public property; The emergence of property rights; The interest-group theory of property rights; The costs of collective action; The theory of rent-seeking; Interest-groups and rent-seeking behavior in an economy

References:

- Hodgson Geoffrey M., *What is the Essence of Institutional Economics*, Volume 34, No. 2, (2000)
- John R Commons, *Institutional Economics*, *American Economic Review*, vol. 21, pp. 648-657, (1931)
- Coase, R. The Nature of the Firm, *Economica*, Vol.4, pp. 386-405, (1937)
- Coase, R.H. The Problem of Social Cost, *Journal of Law and Economics*, Vol.3, pp.1-44, (1960)
- Malcom Rutherford, *Institutional Economics, Then and Now*, *Journal of Economic Perspectives*, Volume 15, No 3, (2001)
- Selznick Phillip, *Institutionalism Old and New*, *Administrative Science Quarterly*, Vol 41, No. 2, pp-270-277, (1996)
- Elster, J. Social Norms and Economic Theory, *Journal of Economic Perspectives*, 3, 99-117, (1989)
- Menard, C. and M. Shirley (eds.) Handbook of New Institutional Economics, Springer, (2005)
- North, D. Institutions, Institutional Change and Economic Performance, CUP, (1990) Ch.5, 6, 7
- North, D. Institutions, Institutional Change and Economic Performance, CUP, Ch.8. 14. Posner, R. "Social Norms and the Law: an Economic Approach", *AER*, 87, pp-365-369, (1997)

FIRST YEAR

Semester II

CEC51102
POLITICAL ECONOMY OF DEVELOPMENT
[HC: 4 Credits, 60 Contact Hours]

“To discover the various uses of things is the work of history. So is the establishment of socially recognised standards of measure for the quantities of these useful products... political economy, on the other hand, investigates the real relations of production in a society.” (Marx: *Capital*) However, since the dethronement of the labour theory of value by the marginalist revolution of neoclassical economics, the determination of value has been lost in relativist discussions of price, profit and utility. In this paper, the students are introduced to the classical school of political economy who could go beyond the apparent prices to get to the notion of congealed labour that determines the exchange value of a commodity. In that spirit, the theory of market mechanism, growth and policies are taken up here. Marx, on a complete different route, has tried to explain human creative activity through the social forms it takes in a specific stage of history of mankind. His contribution lies in bringing out the real tendencies of social revolution to indicate the path for human development beyond capitalism.

Unit 1: Introduction to political economy

Renaissance, rise of Western modernity, Enlightenment, humanism, individualism, liberalism, science and rationality, colonialism, imperialism, mercantilism, physiocracy;

Unit 2: Classical Political Economy

The labour theory of value - Adam Smith, invisible hand, theory of growth, role of state, value theory; Ricardo – income distribution, theory of rent; classical dichotomy, the quantity theory of money, market mechanism, competition, investment led growth, logic of capital accumulation, economic growth, free trade as an engine of growth, theory of absolute advantage and comparative advantage, J.S. Mill, Neoclassical economics - the marginalist revolution, subjectivist theory of value

Unit 3: Marxian Theory- A Critique of Political Economy

Idealism vs. materialism, dialectics as a method, capitalism as a social structure, commodity and money, labour power, labour process, forces of production, relations of production, mode of production, surplus value and capital, class as property or power, exploitation as a Marxian category, historical materialism and the Marxian theory of development , value theory

Unit 4: Overdetermination

Epistemology, ontology, determinism, dualism, economic dualism, transition, capitalist development and poverty eradication, history of capitalist transition and Imperialism, Introduction to critique of economic dualism and alternatives, Transition beyond capitalism;

Unit 5: Class and Development

Class focused economy: class as a process, overdetermination, social formation, capitalism as a representation, class justice and post-capitalist economy, Class and need: surplus, class and development distribution, development justice, public policy, inclusion, poverty, Capitalist Hegemony: nodal point foregrounding and foreclosure;

Unit 6: Critique of Political Economy of Development

Critique of Political Economy of Development; re-examining dual economic model (Lewis, informal-formal, etc.); interrogating alternative theories of transition and development; rethinking transition: reconstruction beyond the capitalist hegemonic; post-capitalist politics; Capitalism and globalization: neo liberalism and global capitalism; formation of economic order in post-globalization period, capitalist development and Primitive Accumulation of third world/world of the third

References:

- A.P. Thirlwall. Growth and Development. Palgrave MacMillan. (8th edition or latest)
- Basu, P. K. 2008. *Globalization: An Anti text*. Aakar Books.
- Chakrabarti, A and Dhar, A. 2009. *Dislocation and Resettlement in Development: From Third World to World of the Third*. Routledge.
- Chakrabarti, A, S, A, Dhar and Cullenberg, S. 2012. *World of the Third and Global Capitalism*. Worldview Press.
- Cohen, G.A. 1978. *Karl Marx's Theory of History: A Defence*. Princeton University Press.
- Engels, F. 1976. *Ludwig Feuerbach and the end of Classical German Philosophy*. Peking: Foreign Languages Press.
- Escobar, A. 1995. *Encountering development: the making and unmaking of the third world*. Princeton University Press.
- Gibson-Graham J.K. 2006. *The Postcapitalist politics*. University of Minnesota Press.
- Lukács, G. 1971. "What is orthodox Marxism?". *History and Class Consciousness: Studies in Marxist Dialectics*. Cambridge, Massachusetts: The MIT Press.
- Marx, K. 1976. *Grundrisse: Foundations of the Critique of Political Economy*. Penguin Classic.
- Marx, K. *Capital: A Critique of Political Economy. Volumes 1, 2 and 3*. Progress Publishers or Penguin Classic.

- Resnick, S. A. and Wolff, R. D. 1987. *Knowledge and Class: A Marxist Critique of Political Economy*. University of Chicago Press.
- Resnick, S. and R. Wolff. 2012. *Contending Economic Theories*. MIT Press.
- Sanyal, K. 2007. *Rethinking Capitalist Development: Primitive Accumulation, Governmentality and Post-Colonial Capitalism*. Routledge.
- Schumpeter (1954): *History of Economic Analysis*, Harvard University Press
- Screpanti & Zamagni (2005): *An Outline of the History of Economic Thought*, OUP
- Sen, A, K. 2009. *The Idea of Justice*, Penguin.
- Sen, A, K.2003. *Rationality and Freedom*, Oxford University Press: New Delhi.
- Sen, A. 1988. “The Concept of Development”. *Handbook of Development. Vol I*.
- Sen, A. 2000. “Development as Freedom”. Oxford University Press.
- Sen, A.1990. “On Ethics and Economics”. Oxford University Press.
- Sen, A.1999. “Commodities and Capabilities”. Oxford University Press.
- Snowdon and Vane (2005): *Modern Macroeconomics*, Edward Elgar Publishing Limited

CEC51104

INTERNATIONAL TRADE

[HC: 4 Credits, 60 Contact Hours]

This is an advanced course on international trade theory and empirics. It begins with a classical trade model and proceeds by introducing various complexities thereby tracking the evolution of modeling in international economics. In the latter part, we revisit the classical models, in a more theoretical manner to bring out the ongoing arguments in favour of and against free trade. Finally, we attempt an understanding of the global scenario from the third world perspectives to bring out the stark contrasts in views.

Unit 1: Trade Theory & Policy under Perfect Competition

Arbitrage, the concept of absolute and comparative advantage, Gains from trade, Heckscher-Ohlin-Samuelson model, Factor price equalization theory, Offer curve, the theory of tariff, Trade policy with domestic distortions, International Political Economy

Unit 2: Trade, Imperfect Competition

Rethinking International Trade, International Trade with Increasing Returns to Scale, Oligopolistic competition and Strategic Trade Theory, The Prebisch Singer argument, Unequal exchange theories, The open dual economy, Terms of trade and development, Immiserizing growth, Bhagwati – Johnson – Brecher and Alejandro, Trade on growth

Unit 3: Economic integration in world economy: Types of economic integration, Trade creating & trade diverting customs unions, History of attempts at economic integration (EFTA, NAFTA, SAARC), Economic integration of developing countries

Unit 4: Emergence of international monetary system: The pre-Bretton Woods period, Emergence and breakdown of Bretton Woods, GATT, World Trade Organization (WTO): Introduction and issues related to developing countries

References:

- Rogoff & Obstfeld. Foundations of International Macroeconomics, MIT Press, (1998)
- Dornbusch. Open Economy Macroeconomics, Norton, (1980)
- Benassy, Macroeconomics, Academic Press, (1984)
- R. Jones, R. Caves and J. Frenkel (CJF), World Trade and Payments, 4th edition
- Ronald Findlay, International Trade and Development Theory, Columbia University Press, (1973)
- Paul Krugman, Rethinking International Trade, MIT press, (1994)
- Jagdish N. Bhagwati, T. N. Srinivasan and Arvind Panagariya, Lectures on International Trade, MIT Press, (1998)
- Helpman & Krugman, Trade Policy & Market Structure, MIT Press, (1989)
- Kierzkowski (ed.), Monopolistic Competition and International Trade, OUP, (1984)
- Bhagwati, J. (Ed.) International Trade: Selected Readings, Cambridge University Press, Massachusetts, (1981)
- Chacholiades, Miltiades, The Pure Theory of International Trade, McGraw Hill, Kogakusha, Japan, (1990)
- Cherunilam, Francis, International Economics, Tata McGraw-Hill Publishing Co. Ltd., New Delhi, (2006)
- Heller, H. Robert, International Trade: Theory and Empirical Evidence, Prentice-Hall of India Pvt.Ltd., New Delhi, (1988)
- Kenen, Peter B. The International Economy, Prentice-Hall of India Pvt. Ltd., New Delhi, (1989)
- Kindleberger, C.P. International Economics, D.B. Taraporevala Sons & Co. Pvt. Ltd., Bombay, (1977)
- Meade, James Edward, A Geometry of International Trade, George Allen and Unwin Ltd., London, (1952)
- Roy, P.N. International Trade: Theory and Practice, Wiley Eastern Ltd., New Delhi, (1986)
- Sodersten, Bo, International Economics, The Macmillan Press Ltd., London, (1991)

CEC51106

INDIAN ECONOMY IN THE GLOBAL CONTEXT

[HC: 4 Credits, 60 Contact Hours]

This course will cover the contemporary issues in Indian Economy with primary focus of Post Reform period. The paper will discuss about the changes in India's Remarkable Growth experience after shift of the trajectory from Planned Economy to Market Economy. Along with detailed outlay of the output and employment pattern, this paper will also elaborate the

infrastructure and policies as an emerging economy. Finally the Growth versus Distribution debate will be covered with special emphasize on the challenges of the State in Post Globalization era.

Unit 1: India as an Emerging Economy

Economic Reforms (Structural adjustment and Stabilization policies; Membership of WTO; Second Generation Reform; High growth rate since 2004 and BRIC membership; Sectoral performance in terms of output and employment; what has become the engine for growth; Macroeconomic Policies and their role: Fiscal Policy, Monetary Policy, Trade Policy etc. (Brief discussion); Distribution Implications - Growth vs. poverty, inequality – jobless growth?

Unit 2: Sectoral Performances in Indian Economy: Output Composition

Agriculture: Change in growth, yield and cropping pattern; Sectoral contribution in GDP; Crop failure – increased vulnerability - Farmers' suicide;

Industry: Change in the composition – Identification of high growth industries; composition of Secondary sector; Primary industries (traditional and dirtier) to Modern sophisticated industries (cleaner and technologically advanced);

Service sector growth: skill intensive sector; high return for investment in education (skill accumulation)

Unit 3: Employment Implications of Growth

Changes in Labour Market: Changes in employment and Labor Productivity; Trends in Wages and wage inequality; Increased casualization of labour; increase in labour mobility viz-a-viz loss of social security; High risk and high return in job market; Gender and Labour Market; Countering unemployment by State: Implications of Employment Generation Schemes

Unit 4: Infrastructural Development in India – Public Private Partnership

Infrastructural Development; How to Finance, Maintain and Implement User Right; Conflict between Economic Efficiency and Social Justice; Private investments in Infrastructure; Public Private Partnership: Definition, Structure, and Operation; PPP Initiatives in Developing Countries: Case studies

References:

- Basu, Kaushik, , India's Emerging Economy: Performance and Prospects in the 1990s and Beyond, ed. OUP, (2004)
- Bhaduri, Amit, Employment with Dignity (2005)
- Bhagwati Jagdish, India in Transition: Freeing the Economy, OUP, (1993)
- Goldar, Bishwanath and Sadhukhan, Amit, Employment and wages in Indian manufacturing: Post-reform performance, Working Paper No. 185, ILO, Geneva, (2015)
- India development reports

- Banerjee, Sarmila and Chakrabarti, Anjan. Development and Sustainability: India in a Global Perspective, eds., Springer, (2013)
- Economic Survey of India
- Ghosh, Chandana and Ghosh, Ambar Indian Economy: A Macro-Theoretic Analysis, PHI learning, (2016)
- Dreze Jean and Sen, Amartya, India: Economic Development and Socila Opportunity, OUP, (1995)
- Kapila, Uma. Indian Economy: Performance and Policies, Academic Foundation; 15th Revised edition, (2015)
- Datt, Gaurav, Mahajan, Ashwani. Indian Economy, S. Chand. Publishing, (2015)
- Vaidyanathan A. Performance of Indian Agriculture since Independence in Kaushik Basu (ed.) *Agrarian Question*, Oxford University Press, (1994)
- Ahluwalia, M.S. Economic Reforms in India since 1991: Has Gradualism Worked? *The Journal of Economic Perspectives*, Vol. 16, No. 3, (2002)
- I.J. Ahluwalia & I.M.D. Little (ed.). India's Economic Reforms and Development, Essays in honour of Manmohan Singh, Oxford University Press, New Delhi, (1999)
- Rakshit, M. "Services-led Growth: the Indian Experience", Money and Finance (ICRA Bulletin), (2007)
- Bhalla, G S. Globalisation and Indian Agriculture: State of the Indian Farmer, Academic Publishers: New Delhi, (2004)

CEC51108
ECONOMETRIC METHODS
[HC: 4 Credits, 60 Contact Hours]

Econometrics is concerned with the application of statistical theory to the analysis of economic data and the estimation of economic relationships. This course intends to expose students to the statistical techniques that economists use for estimating, testing, and forecasting economic relationships. This course covers both an introduction to econometric theory and methods, and a range of applications.

Unit 1: Statistics Prerequisites

Data - Classification and presentation; Frequency distribution - Diagrammatic representation of frequency distribution; Measures of Central Tendency; Measures of Dispersion; Measures of Skewness & Kurtosis; Bivariate data: correlation, covariance.

Unit 2: Introduction to Econometrics

What is Econometrics? Steps in Econometric Analysis; Specification of Econometric Model and Assumptions; Basic Concepts of Estimation and Desirable Properties of Estimators; Data for Econometric Analysis.

Unit 3: Simple Linear Regression Analysis

Definition of Simple Linear Regression Model (SLRM); Ordinary Least-squares (OLS) Estimation of SLRM; Properties OLS Estimators; Statistical Inference in SLRM; Measuring Goodness of Fit; Analysis of Variance on OLS Regression; Interpretation of Regression Results.

Unit 4: Multiple Linear Regression Analysis

Definition of Multiple Linear Regression Model (MLRM); OLS Estimation of MLRM; Properties of Multiple Regression Coefficients; Measuring Goodness of Fit; Problems of Inference in MLRM; Interpretation of Regression Results.

Unit 5: Heteroscedasticity, Autocorrelation, & Multicollinearity

Heteroscedasticity: Definition, Consequences, Detection, Remedial Measures.

Autocorrelation: Definition, Consequences, Detection, Remedial Measures.

Multicollinearity: Definition, Consequences, Detection, Remedial Measures.

Unit 6: Instrumental variables (IV) Estimation and two stage least square

Motivation, Omitted variables in a simple regression model, IV estimation of the multiple regression model, Derivation of Two stage least Squares, IV solutions to Errors-in variables problems, Testing for Endogeneity and Testing Over identifying Restrictions, Use of STATA for empirical test

References:

- G. S. Maddala, Introduction to Econometrics., 2nd Edition, Macmillan, New York
- Gujarati, D Basic Econometrics, , Tata McGra-Hill, Delhi, 4th Edition
- Econometrics. B. H. Baltagi. Springer (india) Private Limited; 3rd edition (2013)
- Econometric Analysis. William H. Greene. Pearson India; 5th edition (2003)
- Principles of Econometrics: A Modern Approach Using EViews. Sankar Kumar Bhaumik. Oxford University Press India (2015)
- Gauss and Invention of Last Square, Stigler S. M., The Annals of Statistics 9(3), pp 465-474, (2013)
- That descriptions be kept as simple as possible until proved inadequate,” *The World of Mathematics*, vol. 2, J. R. Newman (ed.), Simon & Schuster, New York, 1956, p. 1247, or, “Entities should not be multiplied beyond necessity,” Donald F. Morrison, *Applied Linear Statistical Methods*, Prentice Hall, Englewood Cliffs, N.J., 1983, p. 58.
- G. S. Becker, “Crime and Punishment: An Economic Approach,” *Journal of Political Economy*,76(8), pp. 169–217

CEC51110
TOOLS FOR QUANTITATIVE & QUALITATIVE RESEARCH
[HC: 4 Credits, 60 Contact Hours]

This course will introduce students to methods of quantitative as well as qualitative economic research using primary and secondary data source. The course will cover theory and practice of doing applied research in economics. The course will familiarize students with sampling techniques, questionnaire design, implementation of field-based studies, including randomized controlled trials. Students will be provided training for carrying out data analysis, including use of data sets such as the National Sample Survey, National Family Health Survey, and Indian Human Development Survey. Students will be expected to design and implement a small study during the course of the semester and will be evaluated on this.

Unit 1: Research Process

Introduction: Defining need for research, defining research problem, setting research question, different types of research, Research Method and Methodology;

Research Process: Research objective, Literature Review, Information Types and Data Sources, Sample Plan, Data Collection, Data Analysis and Research Report;

Unit 2: Research Design

Sketching a research design, Variables, Research Hypothesis, Control Groups, Experimental & Non Experimental Hypothesis Testing Research; Different Research Design in Exploratory Research, Descriptive Research, Diagnostic Research, Causal Research; Experimental Design: Control Design, Completely Randomized Design, Randomized Block Design, L-S Design, and Factorial Design

Unit 3: Sample Survey and Data Collection

Population and Sample, Census Survey and Sample Survey, Sampling Error, Non-Sampling Error, Sampling Techniques: Non- Probability Sampling, Probability Sampling; Sampling Distribution;

Data Collection: Qualitative & Quantitative Data, Primary & Secondary Data, Measurement and Scaling, Measurement Tools, Scaling Techniques; Methods of Data Collection-Questionnaires, Surveys, Archives, Online Data Collection

Unit 4: Basics of Quantitative Research

Quantitative approach to data analysis; Estimation: Point Estimation, Interval Estimation, Sample size determination; Hypothesis Testing: Null and Alternative Hypothesis, Type-I and Type-II Errors, One tailed and Two tailed tests, Level of Significance, Critical Region, P-value Approach, Hypothesis testing for Mean, Proportion, Variance, Difference of two means,

proportions, variances, Goodness of Fit; Analysis of Variance: One way ANOVA, Two way ANOVA.; Regression Analysis, Multivariate Techniques

Unit 5: Methods of Qualitative Research

Qualitative Approach, Types of Data: Verbal Data, Textual Data, Visual Data and Data beyond Talk; Research Design: Case Studies, Comparative Studies, Retrospective Studies, Longitudinal Studies; Data Collection: Interviews, Focus Group, Narratives, Participant and Non-participant Observation, Ethnography, Film Studies, Photography, Case Studies, Life Histories, Action Research; Qualitative Data Analysis: Transcription, Coding, Grounded Theory, Thematic Analysis, Content Analysis, Conversation, Discourse, Genre and Hermeneutics.

Unit 6: Learning Academic Writing

Research Report: Layout of the research report, Reference Systems, Research Ethics, Plagiarism, Peer Review; Academic Writing: Writing for journal/book chapter/newspaper article/magazine, Research Proposal writing, writing Abstract of any research, Research Grant Proposals.

References:

- Kothari, C.R Research Methodology: Methods and Techniques, New Age International Publisher, New Delhi, (2004)
- Kaplan, D. The Sage Handbook of Quantitative Methodology for the Social Sciences, Sage Publications, London, (2004)
- Flick, U. An Introduction to Qualitative Research, Sage Publications, India, (2014)
- Neuman, W. Lawrence, Social Research Methods: Qualitative and Quantitative Approaches, Pearson, India, (2015)

CEC51612 INTERNSHIP [AUDIT, ONE MONTH]

Summer internship will be of one month duration, during the summer vacation after the end semester exams of Semester II. The students will be given a list of internship opportunities with NGOs, civil society organisations, think tanks, governmental agencies and private companies. At the successful completion of summer internship, students have to submit a detailed internship report. Students will receive certificates both from the organisation and the University.

SECOND YEAR

Semester III & IV

CEC52101
GLOBALIZATION AND CONTEMPORARY ISSUES OF
DEVELOPMENT
[HC: 4 Credits, 60 Contact Hours]

The course deals with the principal issues of economic development, with the objective of preparing students for advanced study and policy-oriented research in this subject area. Emphasis will be on economy-wide aspects of economic development, with special references to international dimensions of national development policy making. In this course, we will strive to develop a more nuanced view which sees development and globalization as an inter-related set of historical processes and mechanisms which have reshaped much of human society over the last several decades.

Unit 1: Development as a concept

The emergence of the development paradigm - beyond economic growth, development as a multidimensional process, role of the developmental state- the role of international organizations: the IMF, the World Bank and the ILO, conceptual issues about the relationship between growth and development, issues involved in measurement of per capita income- Physical Quality of Life Index, Human development index, its alternative forms and critique. Gender Development Index

Unit 2: Theories of Development

Theories of growth – Harrod- Domar vs. Solow Model, Endogenous Growth models: Romar model – Human capital – Total factor productivity – development and growth: a reconciliation

Strategies of development, role of developmental State, Nurkse: Vicious circle of poverty and the critical minimum effort hypothesis, big push argument, targeting the big push-balanced vs. unbalanced growth, choice of Technique and Investment criteria, Myrdal and cumulative causation, Dual economic structure, open and disguised unemployment and migration: Lewis Model- extension by Ranis-Fei, Harris-Todaro model of Rural-urban migration and their critiques, sectoral inter-linkage and problem of effective demand. Structural disequilibrium and inflation.

Unit 3: Issues in development and role of Institutions

Land Market & Land Acquisition: Industry versus Agriculture Debate, the SEZ controversy. Problems of acquisition of agricultural land, country experiences;

Labour Market: Informal Sector- Importance, Nature of employment, Linkages with Formal Sector;

Capital Market: FDI- Modes, types, determinants, technology access & consequences - Imperfections in Capital Market: organized and unorganized capital market;

Market Inter-linkage: Effects on Growth and Income Distribution;

Institutions and economic development, Provision of Public Good: Education- Health- Infrastructure; Social Security & Inclusion: Employment Generation- Credit Expansion- Other Security Measures- An Introduction to Impact Evaluation;

Poverty and Inequality: Poverty: Conceptual Issues-Measurement –Functional Effects, Inequality: Conceptual Issue and Measurement Issues (Kuznets` inverted-U hypothesis: testing and explanation, inequality as a constraint to growth-basics of Galore-Zeira model.

Unit 4: Globalization

Is globalization an unprecedented phenomenon? Integration of the developing economies into the global order: the structural adjustment program (SAP)- Trade liberalization: WTO- Capital flows and financial integration- Communication technology and the death of distance: offshoring and outsourcing- The global regime of property rights- The global economy and the developmental state.

Unit 5: Globalization and the Developing World

Globalization and inequality- Globalization and employment- Trade liberalization, dispersion of production and the international division of labour- WTO and the nation state- Trade liberalization, capital flows and environment- Globalization and agriculture- Development and Democracy.

Unit 6: Debating Consequences of Globalization

The Global Financial Crisis of 2008, and Increasing Inequality; Globalization and Working People – Who are the Winners and Losers? Globalization and Culture – Conflict or Convergence? Globalization and Political Change – More or Less Democracy?

Suggested Readings:

- Contemporary Issues in Globalization. S. Sikdar. Oxford University Press; 2nd edition (2006)
- Stiglitz. Globalization and Its Discontents. Penguin Books (2002)
- In Defense of Globalization. JagdishBhagwati. Oxford University Press; 2nd edition (2007)
- Economic Development. M.P. Todaro, and S.C. Smith. Pearson India; 10th edition (2011)
- Globalization for Development. Ian Goldin, Kenneth Reinert. Rawat Books; (2006)
- Globalization and Development. Ashwini Deshpande (ed.) Oxford University Press; 11th edition (2010)
- Growth and Development. A.P. Thirlwall. Palgrave McMillan; 8th edition (2010)
- Development Economics. Debraj Ray . Oxford University Press; 1st edition (1999)
- Recent Economic Growth in India: Contemporary Issues. S. Gupta, and A. K. Mohapatra. Prateeksha Publications (2011)

- India: Leading Issues in Economic Development. R. K. Mishra. Academic Foundation; 2nd edition (2014)
- K. Basu. Analytical Development Economics: The Less Developed Economy Revisited. Oxford University Press

CEC52102
INTERNATIONAL FINANCE
[HC: 4 Credits, 60 Contact Hours]

This course revolves around the theories and activities connected to capital account of balance of payments. It deals with international capital transfer and the role of international financial agencies and institutions in determining or regulating transactions in the international financial system. It will make a student comfortable in applying for a job at foreign bank like HSBC or a global institution like IMF or pursue higher studies in international finance and banking.

Unit 1: Departure from International Trade

Recapitulation of Balance of Payments; Financing Current Account Transactions; Dynamic Nature of Capital Account Transactions- i) Role of Foreign Currency Interest Rate, ii) Role of Exchange Rate; International Financial Markets; Exchange Rate Determination; Introduction to Currency Derivatives

Unit 2: The International Financial Environment

Multinational Financial Management; International Flow of Funds; International Financial Markets; Exchange Rate Determination; Currency Derivatives

Unit 3: Exchange Rate Behavior

Government Influence on Exchange Rates; International Arbitrage and Interest Rate Parity; Relationships among Inflation, Interest Rates, and Exchange Rates

Unit 4: Exchange Rate Risk Management

Forecasting Exchange Rates; Measuring Exposure to Exchange Rate Fluctuations; Managing Transaction Exposure; Managing Economic Exposure and Translation Exposure

References:

- International Financial Management, Jeff Madura, Cengage, Australia, 12 Editions
- International Monetary Economics, Michael Helperin, Longmans, Green and Co, London, 1st Edition

CEC52104
ECONOMICS OF SOCIAL ISSUES
[HC: 4 Credits, 60 Contact Hours]

Capitalism, aided by modernity and globalisation, had promised a universal solution to all the social problems of mankind. However, with time, it has given rise to a new set of contradictions and problems that are themselves products of this age, characterized by economic engines of growth and technology. Accordingly, new approaches have come up to tackle these social problems related to gender, race, nature etc. This course attempts towards such a new methodological approach towards heterogeneity and local interests, thereby providing a critique of the capitalist notions of justice, rationality and equality.

Unit 1: Modernity and Social Changes

Modernity, capitalism, economic problems of poverty, unemployment and inequality – growth as the solution, from growth to development, emphasis on social indicators, human development - capability approach

Unit 2: Globalization and Social Changes

Dimensions of Globalisation, Beyond economic problems, multiculturalism, urbanisation, migration, social disorganisation, exclusion, displacement, refugee problems, informalization and casualization of labour, demographic problems, population explosion, communalism, secularism, regionalisation, casteism, child abuse, consumerism, stratification, displacement and dislocation

Unit 3: Gender Issues

Basic concepts of women studies, women studies perspectives, gender sensitive approach, gender and sex, biological determinism, stereotyping, socialisation, patriarchy, devaluation, marginalisation, silencing, male gaze, power politics, gender mainstreaming, gender and work, feminism, Forms/ strands of feminism, feminist research methodology, objectivity vs. subjectivity, women right movements, Understanding concept of Masculinity – Definition, forms and stereotyping

Unit 4: Social Justice

Idea of justice – a brief chronological overview, egalitarian view, utilitarian view, Rawlsian view, Sen's idea of justice, idea of natural inequality

Unit 5: Social Movements

Political sociology, power, democratic politics, fall of communism, global governance, terrorism, tribal unrests, social movements- Peasant, Dalit, Womens movements, Environment movements (Naxalbari movement in India: case study)

Unit 6: Environmentalism

Beyond the anthropocene, the mutual interconstitutivity of man and nature, a brief history and taxonomy of environmental movements, mainstream movements and critiques, radical environmentalism, animal rights, indigenous people, sustainable development

References:

- Bauman, Zygmunt. *Liquid Modernity*. Wiley 2000.
- Beck Ulrich, *Risk Society: Towards A New Modernity*, Sage Publications, 1992.
- Breman Jan .*Footloose Labour: Working in India's Informal Economy (Contemporary South Asia)* Cambridge University Press, 1996.
- Connell. R.W. *Masculinities*, Cambridge: Polity Press, 1995
- Giddens, A 1997 *Sociology* Cambridge: Polity Press
- Joseph, R. Gusfield. *New Social Movements: From Ideology to Identity*. Temple University Press. 2009
- Manorama Year Book
- Meera Nanda, *Prophets Facing Backward*, Permanent Black, New Delhi, 2004.
- P.Sainath, *Everybody Loves a Good Draught*, Penguin, New Delhi, 2005
- Pavan Mishra, *Butter Chicken in Ludhiana*, Penguin, New Delhi, 1995
- Pushpesh, Kumar. *Queering Indian Sociology A Critical Engagement CAS WORKING PAPER SERIES* Centre for the Study of Social Systems Jawaharlal Nehru University, New Delhi May 2014 CAS/WP/14-7
- Raka Ray and Mary Fainsod Katzenstein (eds), *Social Movements in India*, Oxford University Press, New Delhi, 2005.
- Shah Ghanshyam, *Social Movements and the State*, Sage, New Delhi, 2002.
- Surinder, S. Jodhka (ed), *Community and Identities*, Sage, New Delhi, 2001.
- Yojna Magazines
- Sujata Patel, Krishna Raj & Jasodhara Bagchi (eds), *Thinking Social Science*, Sage, New Delhi, 2002.
- Stuart Cambridge & John Harris, *Reinventing India*, Oxford University Press, New Delhi, 2000
- Romilla Thappar (ed) *India Another Millenium*, Viking, New Delhi, 2000
- Josef Guglar (ed.) *The Urban Transformation of the Developing World*, Oxford University Press, New York. 1996.
- Ram Ahuja, *Social Problems in India*. Rawat Publications. 1997.
- Singh K.S. (ed.) *Tribal Situation in India*, Indian Institute of Advanced Study, Simla, 1972.
- 1.Ahuja, Ram (2000). *Social Problems in India*, New Delhi: Rawat Publications.
- 2.Deb.S. (2006). *Contemporary Social Problems In India*. New Delhi, Anmol.
- 3.Bhattacharyya.S (1994). *Social problems in India: issues and perspectives*: Sunil Kanta Bhattacharyya, Regency Publications.
- 4.Dube, Leela (1997). *Women and Kinship, Comparative Perspectives on Gender in South and Southeast Asia*, New Delhi: Sage Publication.
- 5.Desai, Neera & Usha Thakkar (2007). *Women in Indian Society*, National Book Trust, India. Gadgil.
- 6.Ghosh. B. (1995). *Contemporary Social Problems of India*: Biswanath Ghosh, Himalaya.

- 7.Mehta. S.R. (Ed.). (1997). Population, Poverty and Sustainable Development, Jaipur: Rawat.
- Guha, Ramachandra. Environmentalism: A Global History. Longman World History Series. New York: Longman, 2000.
- Hobsbawm, E. J. The Age of Empire, 1875-1914. New York: Vintage, 1989.
- McNeill, J. R., John Robert McNeill, and Paul Kennedy. Something New Under the Sun: An Environmental History of the Twentieth-Century World. W. W. Norton & Company, 2001.
- Scott, James. Seeing like a State: How Certain Schemes to Improve the Human Condition Have Failed. New Haven: Yale University Press, 1998.

Suggested Readings:

- Singh K.S. Tribal Movements in India Vol. I & II, New Delhi: Manohar Prakashan, 1982.
- Bose, A., Nangbri, T. & Kumar, N. (eds.) Tribal demography and development in North-East India. Delhi: B.R. 1990.
- Furer-Haimendorf, C.V. Tribes of India: The Struggle for Survival, Delhi: OUP. 1991.
- Mehta, P.L. Constitutional protection to Scheduled Tribes in India in retrospect and prospect, Delhi: H.K. 1991.
- Rao, M.S.A. Social Movements in India, Vol.I and II, Manohar, Delhi, 1978.
- T.K.Oommen, Nation, Civil Society and Social Movements, Sage, Delhi, 2004.
- Kanchalliah, Why I am not a Hindu, Samya, Calcutta, 1998.
- Guru Gopal (ed.), Atrophy in Dalit Politics, VAK, Bombay, 2005.
- Gail Omvedt, Dalits and the Democratic Revolution, Sage, New Delhi, 1994.
- .Beteille, Andre (1992). Backward Classes in Contemporary India, New Delhi: OUP .
- Madhav and RamchandraGuha (1996). Ecology and Equality: The use and Abuse of Nature in Contemporary India, New Delhi: OUP. Gill, S.S. (1998): The Pathology of Corruption, New Delhi: Harper Collin Publishers.
- Lewis, Oscar (1966). Culture of Poverty. *Scientific American*. Vol-II and V No.IV PP-19-25. Satya Murty.
- T.V. (1996). Region, Religion, Caste, Gender and Culture in Contemporary India, New Delhi: OUP.

CEC52718
DISSERTATION
[MDS: 6 Credits]

The students are primarily asked to identify a relevant research topic in the area of economics. After getting approval of the research proposal from the Departmental Research Committee, they will work on it under the supervision of concerned faculty member.

Dissertation Guidelines

- I. Title of the Dissertation
- II. Introduction
- III. Research Objectives
- IV. Research Questions
- V. Review of Literature
- VI. Methodology and Methods
- VII. Results and Interpretation
- VIII. Conclusion
- IX. Bibliography/References

The Dissertation shall contain no plagiarised material. It should follow Proper Reference Style. Both soft copy and hard copy of the Dissertation is to be submitted.

SOFT CORE COURSES

In the second year of the M.A program, students need to choose any ONE stream out of the three offered in this academic session. Under each stream of specialization, they are required to study five courses, each of 4 credits. The streams on offer are subject to availability of course instructors in a particular session.

List of Streams (offered in 2017-19):

1. APPLIED ECONOMICS
2. ECONOMICS OF PUBLIC POLICY
3. BANKING AND FINANCE

SOFT CORE 1: APPLIED ECONOMICS

Econometrics is concerned with the application of statistical theory to the analysis of economic data and the estimation of economic relationships. Applied economics, is a specialized stream which comprises of five papers. This course altogether intends to provide students with a thorough understanding of core techniques of econometrics and learn how to apply them to test economic theories and quantify relevant factors for economic policy and other decisions.

By the end of the course the students will have developed the necessary skills needed for empirical research using modern econometrics techniques. Through their computer based assignments they will be also trained in conducting research using primary data. The students will also deepen their other transferable skills such as written communication, teamwork, numeracy, computer literacy, problem solving and analytical skills.

CEC52105
STATISTICAL INFERENCE AND ESTIMATION METHODS
[SC/ Paper A: 4 Credits, 60 Contact Hours]

This course is designed for the students to understand the statistical knowledge of applied econometrics. Probabilistic statistical inference is an integral part of the process of informing ourselves about the world around us. Statistics and statistical inference help us understand our world and make sound decisions about how to act. More specifically, statistical inference is the process of drawing conclusions about populations from samples about which we have only either partial knowledge or no information. Technically, inference may be defined as the selection of a probabilistic model to resemble the process you wish to investigate, investigation of that model's behavior, and interpretation of the results.

Unit 1: Sampling Distributions

Concepts of Random Sampling, Statistics and Sampling Distributions of Statistics; Illustrations using different Distributions, Reproductive Properties of the Distributions; Some Standard Sampling Distributions- χ^2 Distribution, Distributions of the Mean and Variance of a Random Sample from a Normal Population, t and F Distributions; Distributions of Means, Variances and Correlation Coefficient of a Random Sample from a Bivariate Normal Population, Distribution of the Simple Regression Coefficient (for both Stochastic and Non-Stochastic Independent Variable cases); Distributions of Order Statistics and Sample Range.

Unit 2: Statistical Inference I

Idea of Inference – Point & Interval Estimations and Testing of Hypothesis

Point Estimation – Requirements of a Good Estimator – Notions of Mean Square Error, Unbiasedness, Minimum Variance Unbiasedness and Best Linear Unbiasedness; Principle of Sufficiency, Fisher-Neyman Factorization Theorem, Lehmann-Scheffe Theorem; Properties of Minimum Variance Unbiased Estimators, Asymptotic theory and Consistency, Cramer-Rao Lower Bound, Rao-Blackwell Theorem

Unit 3: Statistical Inference II

Methods of Estimation – Methods of Moment (MoM), Methods of Least-square Estimation (MoLS), Methods of Maximum Likelihood Estimation (MLE), Methods of Minimum Chi-Square Estimation, properties of these estimation, MLE in Exponential Families, Invariance Property of MLE, Maximum Likelihood Estimators using Fisher's Scoring Method

Interval Estimation: Definition; Methods of constructing Confidence Intervals- Confidence Intervals based on Pivotal Quantity, Confidence Interval by Inverting Acceptance Region of a Test; Optimality of Confidence interval Estimators- Shortest Length Confidence Interval, Unbiased Confidence Interval, Minimum Expected Length Confidence Interval

Unit 4: Tests of Significance

Null and Alternative hypotheses, Simple and Composite hypotheses, Critical Region, Type I and Type II Errors, Level of Significance and Size, p-value, Power

Tests related to Single Binomial Proportion and Poisson Parameter; Two Binomial Proportions and Poisson Parameters; The Mean and Variance of a Single Univariate Normal Distribution; Two Independent Normal Distributions and a Single Bivariate Normal Distribution; Regression and Correlation Coefficients of a Single Bivariate Normal Distribution.

Unit 5: Analysis of Variance (ANOVA)

Basic Idea of Linear Model, Heterogeneity and Analysis of Variance, Linear Hypothesis, Orthogonal Splitting of Total Variation, Selection of Valid Error; Applications of the ANOVA Technique (based on both Fixed- and Random- Effects Models) to One-Way Classified Data, Two-Way Classified Data with equal number of observations per cell; Testing Simple Regression Coefficients, Tests for Parallelism and Identity, Correlation Ratio, Linearity of Simple Regression, Multiple Correlation and Partial Correlation Coefficients.

References:

- William G. Cochran, Sampling Techniques, John Wiley, 2007
- Johnson, N.I. & Kotz S. (1970): Distributions in Statistics, John Wiley
- Ross S.M. (1972): Introduction to Probability Models, Academic Press
- Mood A.M., Graybill F. & Boes D.C. (1974): An Introduction to the Theory of Statistics (3rd ed), McGraw Hill
- Hogg R.V. & Craig A.T. (1978): Introduction to Mathematical Statistics
- Srivastava, M.K., Khan, A.H. and Srivastava, N. (2014). Statistical Inference: Theory of Estimation
- Goon A. M., Gupta M. K. and Dasgupta B. Fundamentals of Statistics (Vol-1)
- Goon A.M., Gupta M.K. & Dasgupta B. An Outline of Statistical Theory (Vol-2)

CEC52107

ADVANCED ECONOMETRIC METHODS

[SC/ Paper B: 4 Credits, 60 Contact Hours]

This course is designed to provide the fundamentals of Econometrics for a post-graduate Economic course. Students will be introduced to fundamentals of econometrics applied to Cross-section, Time series as well as panel data analysis. After advancing this course, students will be equipped to deal with empirical economics and applied the techniques to a large number of Economics as well as other social science data.

Unit 1: Dummy Variable Regression Models

Dummy Variables definition, Simple regression model with Dummy Variable (qualitative) with two categories, with more than two categories- intercept shifters, Dummy Variable trap, Interaction of two categorical variables- interaction Dummy; Interaction of categorical and continuous (quantitative) variables- slope shifters; Comparing two regression-Chow test

Unit 2: Qualitative Response Models

Models with Dummy dependent variable, Linear Probability Model (LPM), limitation of LPM, Logit models, Logistic curve, Probit model; Estimation of Probit and Logit models; Comparison between logit and probit model

Unit 3: Model Specification and Diagnostic Testing

Model Selection Criteria; Types of Specification Errors; Consequences of Model Specification Errors- Omitting a Relevant Variable, Inclusion of an Irrelevant Variable; Tests of Specification Errors; Errors of Measurement; Incorrect Specification of The Stochastic Error Term; Model Selection Criteria - The R^2 Criterion, Adjusted R^2 , Akaike Information Criterion (AIC), Schwarz Information Criterion (SIC)

Unit 4: Time Series Econometrics

Stochastic process, Stationary stochastic process, White noise stochastic process, Non-stationary stochastic process or Random Walk, Unit Root stochastic process; Test for stationarity, Autocorrelation Function (ACF), Partial Autocorrelation Function (PACF), Unit Root test, Dickey-Fuller test, Augmented Dickey-Fuller test (ADF), Source of non-stationarity

Cointegration and Error Correction Mechanism; ARIMA forecasting, AR, MA, ARIMA modelling of time series data the Box-Jenkins methodology; Vector Auto Regressive (VAR) model, specification of VAR model, estimation of VAR model, forecasting with VAR, Vector Error Correction model; Granger Causality test, Granger Causality in VAR; Modelling Volatility – ARCH and GARCH Model

Unit 5: Panel Data Model

Definition and usefulness of Panel data; Panel data models: the Constant Coefficients Model, Pooled repeated cross-section model, within and between estimators, the Fixed Effect Model (FEM), the Random Effect Model (REM), Hausman test, Breusch-Pagan test

Unit 6: Simultaneous Equations System

Structural Equation Models: Specification, Endogenous, Exogenous and Predetermined variables; OLS estimation of Simultaneous Equations System: simultaneity bias; Structural and Reduced form equations, Identification problem: Rank and Order condition; Methods of estimation: Indirect Least Squares (ILS), Two-Stage Least Squares (2SLS)

References:

- Maddala, G.S. Introduction to Econometrics, John Wiley & Sons Ltd, 2009
Gujarati, D. Basic Econometrics, McGraw Hill Higher Education, 2003
Wooldridge, J. Econometric Analysis of Cross Section and Panel Data, The MIT Press, 2010
Baltagi, B. Econometric Analysis of Panel Data, Wiley, 2004
Johnston, J. and J. Dinardo: Econometric Methods, McGraw Hill, 1997
Enders, W. Applied Econometrics Time Series, John Wiley and Sons, 2004
Hamilton, J. Time series analysis, Princeton University Press, 1994
Bhaumik, S.K. Principles of Econometrics: A Modern Approach Using EViews, Oxford University Press, 2015

CEC52109 **ECONOMETRIC ANALYSIS OF DATA** **[SC/ Paper C: 4 Credits, 60 Contact Hours]**

Econometrics analysis of Data is a course designed for the students to apply their theoretical knowledge of econometrics in real Economic data. Students will be introduced one or two softwares will be able to apply them in empirical economics using data.

Unit1: Learning a Basic Software like Stata

A Brief Introduction to Stata: Getting Help and Information; Running Stata; Dataset in Stata; Stata Commands; Estimation; Graphics; Exercise

Unit 2: Data Description in Econometrics

Introduction to Data analysis; data mining and Filtering; Descriptive analysis of econometric Data; Graphical exploration; Distributions of Econometric data; Summary

Unit 3: Regression

Simple regression: Introduction; Modelling simple regression; Linear regression and least square principle; Regression with graphics; Outliers,leverage and influence; Summary

Partial regression: Interpreting multiple regression coefficients; Introduction; Multiple regression line; partial regression and partial correlation; The t-test in multiple regression; Summary

Model selection and misspecification: Introduction; Omitted variable bias; Testing zero restriction; The use of dummy variables; Summary

Unit 4: Regression with Cross-section Data

Heteroscedasticity: Introduction; Diagnostic test for Heteroscedasticity; Dealing with Heteroscedasticity; Summary

Categories, counts and measurements: Introduction; regression on a categorical variable: Using dummy variable; Multiple regression on categorical variables; Summary;

Logit transformation, modelling and regression: Introduction; The logit transformation; The linear probability vs logit regression; Graphical analysis; Summary

Unit 5: Regression with time-series data

Trends, spurious and transformations to stationarity: Introduction; Stationarity and non-stationarity; Random walk and spurious regression; Testing for stationarity; Transformation; Summary

Misspecification and autocorrelation: Introduction; Detecting autocorrelation; what to do about autocorrelation; Summary;

Co-integration and error correction model: Introduction; What is co-integration? Testing for co-integration; The Error correction model; Summary;

Unit 6: Applications in Multivariate Data Analysis

Introduction: Cluster Analysis; Factor Analysis; Multivariate Regression;

Reference:

- Sophia Rabe-Hesketh and Brian Everitt ,A Handbook of *Statistical Analysis Using Stata*, Chapman and Hall
- Chandan Mukherjee, Howard White and Marc Wuyts ,Econometrics and Data Analysis for Developing Countries, Routledge

CEC52106

MULTIVARIATE DATA ANALYSIS [SC/ Paper D: 4 Credits, 60 Contact Hours]

Multivariate data analysis is a specialized branch in Econometrics and Statistics to deal with the problems in involving multiple variables. Students will be introduced basic mathematics and statistics course as a pre-requisite for Multivariate data analysis. Students will be introduced different concepts like Cluster Analysis, Factor Analysis, Principal Component Analysis and Multivariate regression analysis as they advanced in the course.

Unit 1: Introduction and Overview

Multivariate Analysis: A broad Definition and Narrow Definition; Concept of Variate; Choice of measurement scale; Summary Notes

Unit 2: Some Basic Statistical and Mathematical concept

Univariate Data analysis; frequency distribution; Normal Distributions; Parameters and Statistics; Measurement of variability; Note on Estimation; Characteristics of Bivariate Data; Range restriction, pearson correlation in special cases; The Eta_Square measure; Phi coefficients; The Z' transformation; Linear regression; Statistical Control: A first look at Multivariate Relations. Basic definitions of Matrix; Basic Matrix Operations; Application of Matrix Algebra, dot product, matrix product, determinant, eigenvalues, eigenvectors, norm, inverse

Unit 3: Cluster Analysis

Methods in Cluster Analysis; Graphical Representations; Distance Matrix; Clustering Variables; Summary

Unit 4: Principle Component Analysis

Introduction; Illustration of PCA for two variables; Outline and examples of PCA; Illustrations and Further readings; Summary

Unit 5: Factor Analysis

Introduction; Latent variable Models; Linear Single Factor model; General linear factor model; Choice of factors; Rotations; Factor Analysis for Binary Data; Factor analysis for ordered categorical data; Further readings; Summary

Reference:

- Ira H. Bernstein , Applied Multivariate Analysis, Springer-Verlag ,1988
- David J. Bartholomew,Fiona Steele,Irini Moustaki,Jane I. Galbraith, Analysis of Multivariate Social Science Data, Taylor and Francis,2008.
- Alvin C. Rencher, Methods of Multivariate Analysis, Second Edition, Willey and Sons,2002

CEC52108 **ANALYSIS OF BIG DATA** **[SC/ Paper E: 4 Credits, 60 Contact Hours]**

The objective of the course is to find meaning within structured and unstructured forms of data. Modern businesses currently have to deal with high volume of data and to predict a trend from existing data is challenge and this course is going to address that issue in particular. This class aims to provide an overview of advanced machine learning, data mining and statistical techniques that arise in real data analytic applications. Selected topics include topic modelling,

structure learning, time-series analysis, learning with less supervision, and massive-scale data analytics. One or more applications associated with each technique will also be discussed. This course seeks to present you with a wide range of data analytic techniques and is structured around the broad contours of the different types of data analytics, namely, descriptive, inferential, predictive, and prescriptive analytics.

Unit I

What is Big Data Analytics? Use of Big Data analytics in the field of Business. Difference between Business Intelligence and Business analytics, Business Forecasting and Predictive analytics. Different types of survey scales and Survey design. Different types of probability sampling. Data cleansing methods. Difference between Supervised and UnSupervised Learning.

Unit-2

Correlation (Pearson and Kendall). Exploratory Factor analysis. Principle component analysis. Cronbach's alpha and P-value. Dependent and independent t-test. Bayesian Probability. Decision tree. Classification tree.

Unit-3

Linear regression, logistic regression. Markov chain. ARIMA and SARIMA model. One-way Anova and two-way Anova. Analysis of Covariance. Std error of estimates. Multicollinearity. Distribution fitting. Auto-correlation. Durban-watson statistics. Skewness and Kurtosis.

Unit-4

Wilcoxon-signed ranked test. Market-basket Analysis. Kaplan-Meir Survival test. Chi-square test. Artificial Neural network. K-nearest neighbor problem. Clustering of Data.

Unit -5

Random_forest and the issue of bagging. Gradient Boosting algorithm. Support Vector Machine algorithm. Overfitting of model. Collaborative filter algorithm. Probabilistic Network. Structural Equation Modeling.

Unit-6

Natural Language Processing. Sentiment Analysis. Lemmetization. Speech to word algorithm. Latent semantic indexing.

References:

Statistics for Management by Levin

SOFT CORE 2: ECONOMICS OF PUBLIC POLICY

Policy decisions by government officials at all levels are required to be increasingly multifaceted in the light of resource constraints to ensure that decision-making contributes to sustainability of the development process. Private not-for-profit and for-profit business entities also have a bearing on development-related policy decisions. To respond effectively to these issues, civil servants and those engaged in the non-governmental sectors, need to (1) be trained in the economics of public policy and in sophisticated methods and tools of analysis, and (2) refresh their knowledge of the substantive development issues at hand.

Major public policy issues travel around the decision making around a) The economics of health care provisioning and regulation of inefficiencies in health care market. b) Education: both elementary education as merit good as well as complicated web of policy issues around higher education and c) Decision making methodologies for optimum resource utilization, sustainable development, environmental valuation with pollution and related environmental regulations.

The current specialization stream includes five compulsory papers to enable students to develop analytical and critical skills relevant for understanding the challenges of public policy and its implementation. It also equips you with skills that are essential for effective policy delivery:

1. Economics of Public Health
2. Economics of private health market
3. Economics of Education
4. Economics of Natural Resources
5. Environmental regulation and Valuation

CEC52111
ECONOMICS OF PUBLIC HEALTH
[SC/Paper A: 4 Credits, 60 Contact Hours]

Public Health is increasingly being viewed as central to issues of development like productivity, income distribution, employment, and knowledge as an input to production. This paper covers the interface between economic theory and public health in order to unravel how it affects the quality of labour. The management and mitigation of infectious diseases as an application of theory of externality will be covered. Different case studies around financing public health facilities along with some global measures which can be used as yardstick of development is coming under the purview of the economics of public health.

Unit 1: Market Failure & Externality

Externality in Health Sector – Economics of Communicable diseases; Market Failure and Compulsory Vaccination; Morbidity and Quality of Labour;

Unit 2: Demographic History of the Society and Quality of Labour

Demographic Transition Theory – Mortality and Morbidity; Interaction between Health, Environment, Society and Economy; Epidemiological Transition Theory;

Unit 3: Economic Growth and Quality of Labour

Endogenous Growth Theory – Total Factor Productivity – Public Health and Development;

Unit 4: Public Investment in Health Care and Economic Development

Health care financing in Public Sector; Causes of Public Investment in Health Care – Why Private will not operate? – Case Studies: Europe, Japan, South Korea, USSR and China

Unit 5: Global Health Scenario

Human Development Index and Global Health Scenario, Global Burden of Diseases, Concepts of DALY and QALY;

Unit 6: Globalization and Public Health Care System

British Health Care System to Obama Care; Case studies on Health Care financing of EU.

References:

- Economics of Infectious Diseases by Ramanan Laxminarayan And Anup Malani in *'The Oxford Handbook of Health Economics'* edited by Sherry Glied and Peter C. Smith (2011).
- Public-Sector Health Care Financing by Åke Blomqvist in *'The Oxford Handbook of Health Economics'* edited by Sherry Glied and Peter C. Smith (2011).

- Market structure and communicable diseases by St´ephane Mechoulan in Canadian Journal of Economics, Vol. 40, No. 2 May 2007.
- Public Goods and Externalities: A Research Agenda for Public Health Economics by Vilma G. Carande-Kulis, Thomas E. Getzen, and Stephen B. Thacker
- Public Health in India: Dangerous Neglect by Monica Das Gupta in EPW, Dec 3, 2005.
- *Handbook of Health Economics Vol1A* edited by Anthony J. Culyer and Joseph P. Newhouse, Elsevier, 2000.
- Report of the WHO Commission on Macroeconomics and Health (2003)
- WHO (2005): Action on the social determinants of health: Learning from previous experiences.
- WHO (2005): Health and the Millennium Development Goals WHO: The Global Burden of Disease concept
- Bose. M. ‘Pattern of Morbidity and Access to Health Care in West Bengal’. Unpublished Ph.D. dissertation, University of Calcutta, 2014; (Chapter 1)
- IMF (2004): Health and Development: A compilation of articles from *Finance & Development*.
- *The Emerging Role of PPP in Indian Healthcare Sector* Prepared By CII In collaboration with KPMG (2016).

CEC52113
ECONOMICS OF PRIVATE HEALTH MARKET
[SC/Paper B: 4 Credits, 60 Contact Hours]

This course provides an introduction to the economic analysis of the health care market. The course is designed to provide a micro-foundation of health economics. For that reasoning and tools of microeconomics are applied to the study of health and medical care and implications for individual health behavior. Moreover, this course will draw on models of behavior under asymmetric information, imperfect competition, agency and optimization under uncertainty. Some of the other related issues like the functioning of hospital industry, pharmaceutical industry, and effect of technological innovation in health care market will also be discussed.

Unit- I: An Overview of Health Economics

What is Health Economics, Why is Health Economics important, Key economic concepts related to health economics, concept of hospital incentives and competition and physician agency.

Unit-II: Demand for Health and Health Care

Demand for Health: Health as a form of Human capital, Grossman’s Investment Model of Health: Marginal efficiency of health capital, Wage effect; Consumption Model; Factors that affect the investment in health, Empirical evidence concerning the Grossman model.

Demand for Health Care: Health care market, Information asymmetry, Price Elasticity, Aggregate demand for health care

Unit-III: Health Care Production, Cost, and Supply

Production: The Healthcare Production Function, Elasticity of Input Substitution, Nature of Production.

Cost: Short run costs for a medical firm, Short-run cost curve, Long-run costs, LACC.

Supply: Factors that affect supply, Labour market for Physician, The market for Nurses.

Unit-IV: Information Economics in Private Health Market –I

The Insurance Market: Demand for insurance, declining marginal utility of income, Uncertainty, Risk aversion, Uncertainty and insurance, Comparing insurance contracts.

Moral Hazard: Problem of Moral Hazard in private health market, A graphical representation of moral hazard, How to limit moral hazard, Evidence of moral hazard in health insurance, The tradeoff between moral hazard and risk reduction, The upside of moral hazard.

Unit-V: Information Economics in Private Health Market –II

Adverse selection: Akerlof's market for lemons- The intuition behind the market for lemons, a formal statement of the Akerlof model, The adverse selection death spiral, When can the market for lemons work?

Adverse selection: the Rothschild–Stiglitz model- The full-insurance line, The zero-profit line, The feasible contract wedge, Finding an equilibrium, Heterogeneous risk types, Indifference curves for the robust and the frail, Information asymmetry and the pooling equilibrium.

Unit-VI: Issues in Health Industry

The Hospital Industry: The rise and decline of the modern hospital, The relationship between hospitals and physicians, The relationship between hospitals and other hospitals, Nonprofits and hospital production, The relationship between hospitals and payers.

Pharmaceutical Industry: The life cycle of a drug, the uncertainty and costs of drug development, Patents, Induced innovation, Regulation of the pharmaceutical industry, Technology and the price of health care.

Health technology assessment: Cost-effectiveness analysis, evaluating multiple treatments: the cost-effectiveness frontier, measuring costs, measuring effectiveness, Cost–benefit analysis: picking the optimal treatment, valuing life.

References:

- Health Economics; Jay Bhattacharya, Timothy Hyde, Peter Tu; Palgrave Macmillan Press, 2014.
- Essentials of Health Economics; Diane M. Dewar; Jones and Bartlett Publishers, 2010.
- The Oxford Hand Book of Health Economics; Edited by Sherry Glied and Peter C. Smith; Oxford University Press, 2011.

- Principles of Health Economics for Developing Countries, William, Jack, World Bank Institute Development Studies, 1999.
- World Development Report, Investing in Health, The World Bank, 1993.

Course Material:

List of Journal Articles and different Reports will be provided during lecture series.

CEC52115
ECONOMICS OF EDUCATION
[SC/Paper C: 4 Credits, 60 Contact Hours]

Education is increasingly being viewed as central to issues of development like productivity, income distribution, employment, and knowledge as an input to production. This paper covers the interface between economic theory and education in order to unravel how education contributes to socio-economic development. Moving beyond the neo-classical approach, it uses alternative theoretical perspectives to analyze the linkages between education and society. With a blend of theory and policy wide range of issues such as the relationship between quality of education and economic growth, a critical overview of the input-output approach and human capital theory, education as a public good the specific features of the education market, the nature of competition in this market, and the role of the government funding, delivery, and regulation of education the role of the public and private sectors will be covered under the domain of this paper.

Unit 1: Education and Economics: An Introduction

Three objectives of Education: Expansion, Excellence and Inclusion; Education in Economic Theory; Human Capital Approach; Education in Growth Theory; Education in an Input-output frame- production function; Critique to Human Capita Approach – Capability, Social choice; Education as public good; and Market and Education – market failure; Policy issues and governance;

Unit 2: Human Capital Approach to Education

Developments in the theory of human capital; Rate of return – Estimation, Private versus social return; General Earning function; Wage and rate of return; Income distribution – egalitarian and elite;

Unit 3: Production Function in Education

Production function and productivity debates in Education; Human versus Physical capital; concept of input and output in delivery of education; University as Non-profit organization; Education production function; Teaching Learning process – concept of Efficiency and Productivity;

Unit 4: Education and Growth Theories

Technology, knowledge and growth; Solow's model and technology; Endogenous growth theory; Technology, knowledge and human capital; Technology, knowledge and Growth – Linkages in Romer's Model; Knowledge in new growth theories; Human Capital - Measurement and quality;

Unit 5: Critique of the Human Capital Theory

Education as screening device – signaling in job market – model; who will invest? Investment in education – social choice approach, collective choice approach, capability approach; Human capital versus human development – Capability and capital; Critique to Sen's Capability approach; critique to human capital theory – Marxian Perspective;

Unit 6: Market and Market Failure in Education

Market and Market failure in Higher Education; Information asymmetry, Adverse selection & Moral Hazard; Knowledge and Market Failure; Market Failure – imperfect capital market; Quasi-market for Higher Education; features of the market; freedoms for providers; Market and equity;

Unit 7: Education and Public policy

Education as Public good; public versus private; Mode of Provisioning - Public versus private; Higher education as public good or mixed good or merit good; primary education as merit good; Global private good; commodification of education – WTO & GATS framework; Higher education as non-merit good;

Public funding; Education Financing: Critique to Neo-liberal Ideology; Private Participation – Pure private, Public-private partnership;

New public Management: Governance Reforms; Choice of school, efficiency and quality; Quality Assurance Mechanism; Indian Education system; Question of Autonomy; Globalization and Higher Education Market;

Reference:

- Saumen Chattopadhyay (2012): Education and Economics: Disciplinary Evolution and Policy Discourse, OUP
- Gruber J. (2011): Public Finance and Public. Worth publishers
- *Annual Report of Department of School Education & Literacy Department of Higher Education*, Ministry of Human Resource Development. Govt. of India, (Most current) <http://mhrd.gov.in>

CEC52110
ECONOMICS OF NATURAL RESOURCES
[SC/Paper D: 4 Credits, 60 Contact Hours]

This course is designed to introduce post-graduate economics students to the policy issues around natural resources. Natural resources being scarce lead to core economic questions regarding the optimal rate of extraction. On the other hand, how discovery of new resource bases change the pricing and usage of one resource comes under the domain of resource economics. Finally the course also introduces ecosystem approach to economics which essentially deals with the problem of irreversibility of the eco-system challenging the linear approaches of economic instruments.

Unit 1: Conceptual Framework

Economics, Ethics and the Environment; Ecological Economics and the Material Balance Approach; Environmental Economics and the Economics of Environment; Introduction to Resource Economics: Elementary Capital Theory- The maximum Principle of optimal control Theory

Unit 2: Economics of Exhaustible Resources

A simple 2-period framework and the concept of Backstop; Extension to Dynamic Model of Mining with modified Hotelling's Rule; Depletion & Discovery under alternative market structures;

Unit 3: Economics of Renewable Resource

Forestry: Single versus Multiple use Forest- Optimal Rotation and Faustman's Rule; Fishery: The concept of Maximum Sustainable Yield (MSY), Optimization under alternative fishery management regimes-open access solutions, Fishery and fish biodiversity, Mangrove-fishery linkages, Basic ideas of the theory of aquaculture shrimp farming;

Unit 4: Common Property Resources

Poverty and Environmental Degradation; Community Management of Common Property Resources; Coordination Failure- Increasing Returns, Free-riding Problem (Assurance Game and Prisoner's Dilemma); Community Institutions: Case Studies;

Unit 5: Ecosystem Management and Sustainable Development

Systems Approach; Linear vs. holistic thinking; Ecological Process; Traditional Knowledge in Ecosystem Management; Ecosystem Restoration; Case studies; Irreversibility, Uncertainty and Economic Development; Need for studying the economics of sustainable development; meaning of sustainable development – Comparison with static and dynamic economic efficiency; Weak *versus* strong sustainability

Unit 6: Measuring Sustainable Development

Environmental Kuznets Curve; Environmental Accounting: Basic Theory; Environmentally adjusted national product; Green Accounting

References:

- Dasgupta, P (1982): The Control of Resources, HUP.
- Hanley, N., J.F. Shogren, and B. White, Environmental Economics: In Theory and Practice, Oxford University Press, 2006.
- Bhattacharya, R.N. (2001), Environmental Economics – An Indian Perspective, Oxford University Press, Delhi.
- Perman, Ma, MacGilvray and Common (2003) Natural Resource and Environmental Economics, 4/e, Prentice Hall.
- Baland & Platteau (2003): Economics of Common Property Management Regimes in Mäler& Vincent (eds.) Handbook of Environmental Economics, Vol 1, North-Holland.

CEC52112

ENVIRONMENTAL REGULATION AND VALUATION

[SC/Paper C: 4 Credits, 60 Contact Hours]

This course is designed to address environmental problems from the perspective of economics. Designing economic instruments for regulation of environmental problems as well valuation of environmental services are major two focus of this course. In addition to that, global climate change issues along with their macroeconomic policy impact will be addressed in this course.

Unit 1: Environmental Regulation

Environmental Pollution as a Public Bad; Externality (Pigou), Property Rights (Coase), Optimal Pollution; Pollution Control: Alternative Market Based Instruments – Pure policies (Emission Fees, Standard setting, and Tradable Pollution Permits), Hybrid instruments (two-part tariff), Double Dividend Hypothesis, and Illicit Dumping; Case Studies;

Unit 2: Introduction: Concept of Value

Measuring values, benefits and costs – overview; total value – use and non-use values of goods; Total Economic Valuation; Resource evaluation and public policy; measuring demand for environmental goods – consumer surplus, compensating and equivalent surplus,

Unit 3: Environmental Valuation: Production Function Approach

Household Production Function Approach to Economic Valuation; Environmental valuation from market information including prices – dose response function, productivity change method, substitution cost method, illness costs, human capital; applications

Unit 4: Environmental Valuation: Revealed Preference Approach:

Revealed Preference Approach to Economic Valuation – basic theory; Hedonic pricing method – property market and labor market; travel cost method – individual model and zonal model; Statistical Value of Life;

Unit 5: Environmental Valuation: Stated Preference Approach:

Hypothetical Market and Contingent Valuation Method; Contingent valuation method – bias, experimental markets; choice modeling – choice experiment, contingent comparison, contingent scoring, pair comparison; applications; Experimental Market

Unit 6: Climate Change Policy – Mitigation & Adaptation

Efficiency, public goods, externalities; environmental policy instruments – emissions trading, carbon tax, emission trading *versus* tax; stock pollutants and discounting; decisions under risk and uncertainty; Climate change impact assessment – applications for agriculture, sea level rise and health; vulnerability assessment; economics of adaptation; measurement of adaptation cost; issues in financing adaptation; case studies;

References:

- Bhattacharya, R.N. (2001), Environmental Economics – An Indian Perspective, Oxford University Press, Delhi.
- Kolstad, C.D. (2012). Intermediate Environmental Economics, Oxford University Press, New York
- Kadekodi , G. (2004): Environmental Economics in Practice: Case Studies from India, OUP.
- Pearce, D.W. and Turner. R.K.(1991) : Economics of Natural Resource and Environment, Harvester-Wheatsheaf.
- Baumol & Oates (1988): Theory of Environmental Policy (2/e), CUP
- Murty, M.N. (2009), Environment, Sustainable Development, and Well-being: Valuation, Taxes and Incentives, Oxford University Press, Delhi.
- Hanley, N., J.F. Shogren, and B. White, Environmental Economics: In Theory and Practice, Oxford University Press, 2006

SOFT CORE 3: BANKING AND FINANCE

Banks play the lubricating role in macroeconomic governance of the nation whereas finance provides economic assistance to the households and firms in acquiring assets. 'Banking and Finance' is an area of specialization is offered the PG course in Economics. This branch opens to the students the doors of the financial industry for employment or research. Employment can be available in the economic wings of the government or industrial conglomerates or in the functional areas like retail banking, treasury operations, risk management, brokerage, wealth management, merchant banking whereas research areas may cover financial economics, regulatory economics, financial markets, equity research, fixed income analytics etc or in the socio-financial issues, e.g. financial inclusion, micro-finance etc.

CEC52117
FINANCIAL INSTITUTIONS AND MARKET
[SC/Paper A: 4 Credits, 60 Contact Hours]

This course visualizes how the saved income of the individuals and corporate entities takes the form of financial securities and enter the production system of the country as capital. This course discusses classification of above securities with respect to their risk and return profile and the tenure of investment. In the process the price discovery of these assets through the digital platforms as a result of trading activities within the regulatory ambit are also discussed keeping in view the interests of the issuers as well as the investors. The course covers both money market and capital market.

Objectives: This course aims to make a student acquire knowledge on the following:

- 1) Different classes of securities and their risk-return profile,
- 2) Working of the security markets and the trading mechanism and
- 3) The regulatory guidelines.

Unit 1: Introduction to Income, Savings and Capital

Concept, components and measurement of National Income; Circular Flow of National Income; Concept of Production Function; Role of Capital in Production; Savings-Investment Identity

Unit 2: Introduction to Financial Assets

Concept of Financial Assets and their Risks; Relationship between Capital, Investment and Financial Assets; Classification of Financial Assets according to Risk-Return Profile; Concept of Derivatives; Overview of financial asset markets and derivative markets; Introduction to Regulatory Role of the Government

Unit 3: Money Market

Concepts and Mechanisms; Guidelines of Reserve Bank of India; Money Market instruments; Role of Clearing Corporations of India

Unit 4: Capital Market

Introduction to Stock and Debt; Futures, Forward Rate Agreements and Options on Stocks and Interest Rates; Risk of non-delivery transactions; Overview of Stock Exchanges and SEBI; SEBI's Risk Management System; Regulation of intermediaries

References

- Fabbozi F., F. P. Modigliani and F. Jones (2007) Foundation of Financial Markets and Institutions. New York: FT Prentice Hall.
- Fredrick S Mishkin and Stanley Eakins (2012) Financial Markets and Institutions, Boston: Prentice Hall

CEC52119
PRINCIPLES OF MODERN BANKING
[SC/Paper B: 4 Credits, 60 Contact Hours]

This course discusses operations of the commercial banks with focus on India. In so doing, it aims to acquaint the students with market practices and also with research on functional areas of the commercial banks such that they feel at home while applying to a bank for job.

Unit 1: Introduction

Concept of Bank; Types of Banks; Concept and Example of Commercial Bank; Concept and Example of Cooperative Bank; Concept and Example of Rural Regional Bank; Concept and Example of Private Bank; Concept and Example of Investment Bank; Concept and Example of Central Bank; Concept and Example of Non-Bank Financial company; Concept and Example of Bank Conglomerate

Unit 2: Main Banking Businesses: Deposits and Loans

Introduction to Banking Business; Types of Deposits; Rules for Opening and Operating Deposit Accounts; Pricing of Deposits; Deposit Insurance; Types of Loans; KYC Norms for Loan Accounts; Pricing of Loans; Project Finance; Credit Appraisal, Approval and Monitoring

Unit 3: Bank Regulation and Supervision

Concept of Regulation; Reserve Bank of India; Basel Committee; Federal Reserve System of USA; Financial Services Authority of UK; European Central Bank; Concept of Financial Crisis as Failure of Regulation

Unit 4: Bank Risk Management in Lending & Operations • Concept of Risk Facing Banks

Concept of Credit Risk; Measure of Credit Risk; Management of Credit Risk; Concept of Operational Risk; Measure of Operational Risk; Management of Operational Risk

Reference:

- Saunders A and M M Cornett, (2008). Financial Institutions Management – A Risk Management Approach, Boston: McGraw-Hill, Chapters 7, 11, 12 and 16.
- Wong Michael C. S. (Ed.), The Risk of Investment Products: From Product Innovation to Risk Compliance, WSPC USA, 2011 •
- Hull John C, Options, Futures and Other Derivatives, Prentice Hall, New Delhi, 2000

CEC52121
CORPORATE FINANCE
[SC/Paper C: 4 Credits, 60 Contact Hours]

Unit 1: Organising a Business

Forms of organisations – Sole Proprietorship, Partnership, Company, others; Role of a Financial Manager in a business organization: Decision areas – Capital Budgeting decisions, Working Capital Management decisions, Financing decisions, and Dividend decisions; Financial Institutions and Markets: Brief introduction of the roles of different financial institutions and markets; Goals of a business organization: Primary goal, Secondary goal, Goals of a corporate form of business: Profit Maximisation Vs. Shareholders' Wealth Maximisation, Agency Problem – Conflicts and Resolutions.

Unit 2: Sources of Finance

Short Term Sources: Trade Credit, Factoring, Bills of Exchange, Commercial Paper, Bank Loans - Medium and Long Term Sources: Internal sources and External sources – Owned Sources, Debt Sources – Debentures, Financial Institutions, Others.

Unit 3: Valuing Stocks

Stocks and the Stock Market - Reading the Stock Market Listings – Book Values, Liquidation Values, and Market Values – Valuing Common Stocks: Dividend Discount Model – Growth Stocks and Income Stocks: Price-Earning Ratio.

Unit 4: Short Term Financing-Working Capital Management

Concepts of Working Capital, Components of Current Assets, Permanent and Variable Working Capital, Determinants of Working Capital, Approaches for Working Capital Management, Estimating Working Capital Needs, Current Assets Financing Policy, Operating and Cash Conversion Cycle

Unit 5: Mutual Funds

Concept – Structure – Classification – Advantages and Limitations – guidelines for Mutual Funds – SEBI (Mutual Funds) Regulations, 1996

Reference

- Brealey, R.A., Myers, S.C. and Allen, F. (2014). Principles of Corporate Finance, 11thEd, McGrawHill.
- Damodaran, Aswath. (2007). Corporate Finance Theory and Practice, 2^{ne} Edition, Wiley.
- Ross, Westerfield, Jaffe, Kakan. (2014). Corporate Finance, 10th Edition, McGraw Hill

CEC52114
PRINCIPLES OF INVESTMENT BANKING
[SC/Paper D: 4 Credits, 60 Contact Hours]

Investment banks work as catalysts to the financial markets. They smooth the flow of capital from the point of origin to the point of need. They help the corporate bodies to access the capital market in matter of raising and deploying funds. They work as bridges between the issuers of security and the investors. This course discusses how the investment banks contribute to architecturing of the financial system through various specialized functions.

Unit 1: Introduction

Concept of Investment Banking; Concept of Commercial Banking; Concept of Merchant Banking; Concept of Conflict of Interests; Commercial Banking within and without Investment Banking Concept of Universal Banking; Why not Universal Banking - Conflict of Interests

Types of Investment Banks- Financial Holding Companies, Full-service Investment Banks, Boutique Investment Banks; Important Specialized Services; Equity Offering and Bond Offering; Merger and Acquisitions

Unit 2: Equity Offerings

The Offering Structure; American Depository Receipts (ADRs) and Global Depository Receipts (GDR); Price-Setting Mechanisms; The Key Steps of the IPO Process; Project Finance with Equity

Unit 3: Debt Offerings

Bond Offerings; Credit Ratings; Securitization; Syndicated Loans; Project Finance with Debt

Unit 4: Merger and Acquisitions

The Concept of Mergers and Acquisitions; Why Companies Merge and Acquire; Integration and Conglomeration; The Merger and Acquisition Lifecycle; Measuring the Success of Mergers and Acquisitions; A Brief History of Mergers and Acquisitions

Reference

- Fabbozi, F.(Ed.) (2008) Handbook of Finance, Volume I, Wiley & Sons
- Iannota G. (2010) Investment Banking, Springer
- Roberts R A, Wallace W and Moles P (2016) Mergers and Acquisitions
- Saunders A and Cornett M, Financial Institutions Management, Mc-Grawhill 6th Edition
- Hull J, Options, Futures and Other Derivatives, Prentice Hall, 9th Edition

CEC52116
SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT
[SC/Paper E: 4 Credits, 60 Contact Hours]

Unit 1: Understanding Investments

Investments: Meaning, types and characteristics, Objectives of investments, Types of investors, Type of Investments.

Concept of risk and return, Types of risk, Measurement of Risk, Risk and Expected Return, Risk-Return Relationship, Portfolio and Security Returns, Return and Risk of Portfolio, Portfolio Diversification and Risk.

Unit 2: Valuation of Investments

Fixed Income Instruments: Bond valuation Concept, Valuation model, Bond return, Price-yield relationship, Bond market, structure of interest rate (yield curve), Duration, Immunisation.

Equity Share valuation, Earnings valuation, Cash flow valuation, Asset valuation, Dividend-Discount model. Cost of Capital Approach.

Unit 3: Security Analysis

Market Efficiency Theory

Economic Analysis –Economic factors, Econometric Forecasting Techniques Industry Analysis – Industry Life Cycle – Structural Analysis, Importance of Industry Analysis, Classification of Industries, Key Indicators in Analysis, Forecasting Methods. Company Analysis – Analysis of Financial Statements. Technical Analysis – Concept, Dow Theory- Bar Charts, Point and Figure Charts.

Unit 4: Introduction to Portfolio Analysis

Introduction Portfolio Analysis, Portfolio Analysis and Selection, Markowitz Diversification and Classification of Risks, Measuring risk and return for single security and portfolio.

Unit 5: Portfolio Analysis and Models

Introduction to CAPM, Analysis of the Capital Asset Pricing Model, Benefits and Limitations of CAPM, Security Market Line (SML), Capital Market Line (CML), Beta Factor of a Market Portfolio, Arbitrage Pricing Model, Arbitrage Pricing Theory (APT), Modern Portfolio Theory.

Unit 6: Portfolio performance models and portfolio evaluation.

Markowitz Risk-return Optimisation, Single Index Model, Two Factor Model, Multi Factor Model. Methods of Calculating Portfolio Returns, Portfolio Performance and Risk Adjusted

Methods-Sharpe's Ratio, Treynor's Measure, Jensen's Differential Returns, Portfolios for Performance Evaluation.

Reference:

- M. Ranganathan and R. Madhumathi: Investment Analysis and Portfolio Management, Pearson Education, New Delhi.
- PunithavathyPandian: Security Analysis and Portfolio Management, Vikas Publishing House Pvt. Ltd., New Delhi.
- Bharti V. Phatak: Indian Financial System, Pearson Education, Delhi.
- Avadhani, V. A.: Securities Analysis and Portfolio Management, Himalaya Publishing House.
- Prasanna Chandra: Investment Analysis and Portfolio Management, TMH, Delhi.
- Fischer, Donald E and Jordon, Ronald J., Security Analysis and Portfolio Management; Prentice hall, India; New Delhi