OUTCOME-BASED EDUCATION (OBE)

Brief outline of OBE: *The Outcome-Based Education (OBE) is the education approach that focuses on the clarity of graduate programmes. According to the OBE philosophy, the curriculum should describe the career and professional achievement for which the educational program is designed. Further, the curriculum should clearly describe the knowledge and abilities the graduate will have by the end of program/course teaching. The philosophy suggests that, the learning in the institute must be useful in the world of work and life and therefore the curriculum should clearly focus about the graduate attribute by the end of graduation. The clarity in the focus is beneficial to all stakeholders. The educational outcomes are described in terms of program educational objectives, program outcomes and course outcomes. The definitions of these terms are stated below .*

As part of NAAC requirements, the HEI (Higher Education institute) shall have outcome-based education approach in the curriculum and curriculum teaching.

PROGRAM EDUCATION OBJECTIVES (PEO)

Definition: "**PEO** are the broader statements that describe the career and professional achievements of graduates after 3-4 years of graduation. PEOs can be minimum three and maximum five."

PROGRAM OUTCOMES (PO)

Definition: "**PO** are the narrower statements that describe the knowledge and abilities, the graduate will have by the time of graduation."

COURSE OUTCOMES (CO)

Definition: "**CO** are the narrower statements that describe the knowledge and abilities, the graduate will have at the end of course teaching."

The PEOs, POs & COs are stated for each program of the Institute.

M.Sc. Economics:

PROGRAM EDUCATIONAL OBJECTIVES

I. To apply knowledge of economic theory and quantitative techniques to analyse problems of finance and development.
II. To pursue career in organisations that require knowledge of handling big datasets, economic and financial analysis, investment banking, data analysis and forecasting, risk advisory and insurance;
III. To pursue a career in consultancy in domains like, business analytics, forecasting;
IV. To pursue career in teaching and research institutions,
V. To pursue development Research leading to Ph.D.;

PROGRAM OUTCOMES

a. The application of economic theory in an appropriate analytical framework, along with empirical evidence.
b. Problem solving and capable of explaining, applying and critically evaluating the use of economic and econometric models for description and hypothesis testing, forecasting, assessing different business decision options and different government policy options.
c. Advanced in problem solving through their understanding of macroeconomic and microeconomic issues and able to apply economic theory and statistical techniques to economic policy and business decision making;
d. Analyse emerging policy issues at the national and international levels.
e. Demonstrate quantitative and qualitative methods of analysis.
f. Use data analytics software like R, SAS, STATA, EViews and MATLAB.
g. Apply critical analysis, evaluation and synthesis to solve complex problems.
h. To develop an ethical approach to research and work practices;
i. Demonstrate skills in time management, self-discipline and self-motivation.
j. Work independently, Work as part of a team at national and international level.
k. Communicate with clarity and accuracy, orally (including presentation) and in writing.

DOCTOR OF PHILOSOPHY (Ph.D.)

Program Education Objectives (PEO)

The program education objectives of Ph.D. program are;

1. Ability to develop career as academic researchers as well as professionals
2. Ability to conduct policy analysis, relating to national and global economic and development issues, from a quantitative and inter-disciplinary perspective.
3. Ability to deliver an integrated framework to address various development issues
4. Ability to pursue advanced development research.

PROGRAM OUTCOMES

I. Demonstrate comprehensive knowledge in one or more general subject areas related to, but not confined to, a specific area of interest.
II. Apply research methodology and/or scholarly inquiry techniques specific to one's field of study.
III. Critically analyze, synthesize, and utilize information and data related to one's field of study.
IV. Proficiently communicate and disseminate information in a manner relevant to the field and intended audience.
V. Conduct research or projects as a responsible and ethical professional, including consideration of and respect for other cultural perspectives. Interact professionally with others.

MASTER OF PHILOSOPHY (M. Phil.)

PROGRAM EDUCATION OBJECTIVES

1. Ability to apply advanced knowledge and skills required for a career as a professional economist in public service or the private sector.
2. Ability to develop career as academic researchers as well as professionals
3. Ability to pursue advance development research.

PROGRAM OUTCOMES

I. To demonstrate advancement of knowledge in the specific domain of economics.
II. To apply techniques and applications to develop quantitative research methods.
III. To apply fundamentals of research to develop analytical and applied skills.
IV. To critically analyze evaluation of ideas, views and evidence contained in the economic and econometric research literatures.
V. To formulate a significant problem, mastery of appropriate conceptual and methodological frameworks, and the capacity for articulate and critical analysis.
VI. To conduct research or projects as a responsible and ethical professional, including consideration of and respect for other cultural perspectives. Interact professionally with others.

COURSE OUTCOMES

COURSE: MATHEMATICS FOR ECONOMISTS
Course Outcomes:

1. Apply the concept and principles of mathematical analysis in optimization
2. Select mathematical models and tools in Theoretical Economics.
3. Use/Apply mathematical models and principles with rigor
4. Implement/apply problem solving tool in advanced economics theory
5. Solve Optimization Problems of Classical, Linear and Non-linear to Dynamics.

COURSE: Econometrics-I
Course Outcomes:

1. Describe basic/fundamentals of econometric theory;
2. Apply the concept, principles and models of econometric theory in solving the problem;
3. Solve problems by using models of simple linear regression and multivariate regression, inference and prediction, specification analysis, generalized and restricted least square, multicollinearity, heteroskedasticity, autoregression, stochastic regression, and distributed lags models.
4. Explain the concept of probability, statistics, and matrix algebra in economics.

COURSE: Applied General Equilibrium Models
Course Outcomes:

1. Apply General Equilibrium (AGE) models for analysing economy-wide effects of various policies (such as, tax reforms, trade liberalisation, distribution policies, energy and environmental issues, etc.)
2. Analyze issues of inter-sectoral and inter-agent linkages are crucial by applying AGE;
3. Explain different AGE models;
4. Compare different AGE models with respect to its application and degree of accuracy;
5. Demonstrate model building and application in the areas of students' interest.

COURSE:
SOCIO-ECONOMIC & POLICY ISSUES IN ENERGY AND ENVIRONMENT (SPEE-I & II) Course I- Basic Concepts; Course II - Advance Concepts
Course Outcomes:

Course I- Basic Concepts

1. Describe Socio-economic and policy issues related to different parameters such as, energy and environment; Population, urbansiation, industrialsation;
2. Describe different Social and Economic Development Indicators- Life Expectancy, Nutrition, Literacy, GDP, HDI, Income, Employment etc.;
3. Consumption Patterns and Environmental Stress;
4. Urbanisation- Housing infrastructure, Growth of Slums, Poverty, Slums,
5. Urban Infrastructure - Various Modes of Transport (Rails, Road, Air, Water), Ports and Inland Water Transport,
6. Industrialisation and Economic Development, Spread of Industrialisation, Clusters of Industries, Industrial Pollution;
7. Ecology-Environment and Human Relationships;

Course II - Advance Concepts

1. Statically describe the pattern of land utilization, land degradation and impact on environment;
2. Describe the socio-economic factors governing/controlling, agriculture sector; Forest & diversity; clean and green energy and pollution.
3. Analyse socio-economic issues governed/controlled by agriculture sector; Forest & diversity; clean and green energy and pollution and its impact on socio-economic development of demography;
4. Describe the management of Forests and State of Biodiversity for enhancing socio-economic status of habitant;
5. Describe/analyse the Effect of Anthropogenic Activities; Problems of Encroachment, Extinction of animal and plant species, Reduction in Tiger Population.
6. Analyse the environmental problems on demography, habitants and trade due to pollution, climate change on trade and demographic components; locally as well as in the Developed and Developing Countries;
7. Analyse International Efforts for protecting global environment – IPCC, GEF, UNDP, WB etc.

COURSE:

Monetary Theory and Policy

Course Outcomes:

1. Describe the concept and application of Monetary theory in monetary economics.
2. Apply the Monetary theory in banks and emerging market economics;
3. Analyze the monetary economics in EMEs;
4. Demonstrate the knowledge of monetary theory in the field/sector of economics.

5. Describe/Analyse the developments in monetary policy in major advanced and emerging market economies, including India.
6. Explain the evolvement of economic policies based on the monetary theory.

COURSE:

GENERAL TOPOLOGY

Course Outcomes:

1. Write mathematical proofs/solutions in line with the professional standards.
2. Implement the mathematical models in solving economic problems and computational exercises.
3. Describe the concepts and terminologies of topology theorem;
4. Describe and compare different topology theorems'
5. Apply the concepts such as open and closed sets, connected and compact spaces; para-compactness; metric spaces; and continuous functions etc. in solving economic problems.

COURSE:

Issues in Finance and Growth

Course Outcomes:

1. Analyse and describe the relationships between finance and growth in the economic sector;
2. Describe the effects of financial fragility on economic growth;
3. Analyse the effects of financial liberalization on the working of financial systems;
4. Describe the role of economic development in the design of financial systems;
5. Analyse the design of financial systems in context to globalization of capital flows;

COURSE:

INSTITUTIONAL ECONOMICS: THEORY AND APPLICATIONS

Course Outcomes:

1. Explain the basis for emergence, growth and functions of institutions;
2. Describe the role of institutions in development, and in analysing the process of economic change.
3. Analyse, compare and describe the theoretical perspectives in institutional economics;
4. Describe the impact due to social, political and legal institution on economic development;
5. Explain the function of institutions in mitigating collective action problems, rent seeking, interest groups and policy formulation,

6. Analyse and describe the role of institutions in reduction of transaction costs and the role of rules and norms in coordinating and protecting institutions.
7. Apply the theoretical perspective of institution in economic development.

COURSE:
ECONOMETRICS - II
Course Outcomes:
Econometrics - II will cover

1. Apply disturbance related regressions, simultaneous equations, qualitative choice, limited dependent variable and panel data models in empirical analysis.
2. Describe the notions of causality and endogeneity and methods to address them.
3. Apply/Implement the methods to address causality and endogeneity in the filed study;
4. Apply different econometrics models to analyze real world problems;

COURSE:
MACROECONOMICS II
Course Outcomes:

1. Apply recursive techniques in both discrete and continuous time scale to economic growth, monetary theory and monetary policy.
2. Analyse the cause of business cycle;
3. Analyse and describe the macro economic factors in the development of countries;
4. Conduct / demonstrate the monetary and fiscal polices in short run fluctuations;
5. Demonstrate the analysis, solution, calibration, estimation, evaluation and extension of DSGE models based on the empirical /field data
6. Perform quantitative exercises using MATLAB and Dynare.

COURSE:
Development Economics
Course Outcomes:

1. Analyse main issues, theories and empirical evidence on economic growth and development.
2. Explain the concept of measurement and definitional issues.
3. Analyse and describe the theories of economic growth and development;
4. Describe the analysis of poverty and inequality issue in macro and micro aspects of development;

COURSE:
Climate Change-Impact and Response
Course Outcomes:

1. Explain the concepts and issues in the context of climate change and its effect on development economics;
2. Describe/ Analyze the causes and response to climate change
3. Analyze the available datasets to extract the weather/climate variables of interest
4. Analyze/ Demonstrate/ Describe the econometric evidence that weather/climate affects economic activity

COURSE:
Game Theory
Course Outcomes:

1. Explain the concept, principle and applications of game theory in economics;
2. Apply the game theory in solving problems;
3. Describe the practical implications and applications of concepts/principles of game theory.

COURSE:
TOPICS IN INTERNATIONAL FINANCE AND ECONOMICS
Course Outcomes:

1. Explain the basic principles and concepts in international finance in context to emerging markets;
2. Application of analytical and empirical tools to analyze substantive issues;
3. Analyze the effect of economic policies on international level/platform;
4. Explain the effects of domestic and international banking, finance, foreign direct investment and macroeconomic policy.

COURSE:
Financial Econometrics -- I
Course Outcomes:

1. Apply the statistical techniques in stylized facts of daily returns;
2. Determine volatility by using different volatility models;
3. Use Present value models, Capital Asset Pricing Model in econometrics;
4. Estimate value at risk by using different approaches;
5. Explain the features of intraday price data and stylized facts of intraday returns;
6. Estimate the high frequency Data – intraday data.

COURSE:
Oligopoly Theory – I
Course Outcomes:

1. Knowledge of selected topics of Oligopoly Theory.
2. 2. To gain a fair understanding of decision making in strategic environments in general.
3. To enable students to develop micro-theoretic models.
4. Concepts developed in this course will be very useful to analyze a wide range of issues of economics, business and public policy.

COURSE:
Time Series Analysis – II
Course Outcomes:

1. Apply the concepts of Time Series theory and methods of analysis;
2. Use Time Series theory in examining financial processes;
3. Implement/Use methods of Time Series analysis;