

PROGRAMME: M. A. ECONOMETRICS

Programme Specific Outcomes (PSOs)

PSO	PSO Statement
	Upon completion of the M.A. Econometrics Programme, the post-graduates will be able to:
PSO1	Understand the theories of microeconomics, macroeconomics, Economics of Growth and Development, International Economics and Public economics and apply its knowledge to econometric analysis.
PSO2	Understand the issues, developments, challenges and data bases of the Indian and Kerala economy and helps to evaluate the current situations
PSO3	Understand the mathematical and statistical methods to apply in the Univariate Time series, Multivariate time series and Regression analysis.
PSO4	Analyse, interpret and explain the empirical economic phenomena like a professional economist with econometric knowledge.
PSO5	Assimilate the theoretical knowledge and expertise required to evaluate and develop new econometric interpretations and report them professionally with the mastery of econometric insight thereby imparting disciplinary skills among the students.
PSO6	Critically understand the economic aspects of social phenomena and with that understanding to intervene in the socioeconomic process with a view to increasing the human welfare or expanding the freedom as articulated by Amartya Sen.
PSO7	Understand various statistical Computer software and apply its skills to give econometric solutions to economic phenomena.

CORE COURSES

Course Outcomes (COs)

Course	Details
Year/ Semester	I/I
Type	Core Course (Theory)
Code	EM010101
Title	Micro Economic Theory-1
Credits	4
Hrs/ week	5
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Understand the key concepts and practical applications of microeconomic principles and theories.
CO2	Develop a critical thinking and synthesis on the various theories related with consumers' behaviour, producers' behaviour and economic behaviour of firms.
CO3	Apply theoretical frameworks in interpreting microeconomic behaviour of various economic agents.

Course	Details
Year/ Semester	I/I
Type	Core Course (Theory)
Code	EM010102
Title	Macro Economic Theory-1
Credits	4
Hrs/ week	5
Total Hrs	90

CO No.	CO Statement
CO1	Understand the different macroeconomic approaches such as Classical, Keynesian, Monetarism, New Classical Macroeconomics, New Keynesian School and the New Classical New Keynesian Synthesis.
CO2	Critically evaluate the usefulness and implications of macroeconomic theories with a view to examining the functioning of the macro economy
CO3	Apprise the scope and limitations of modelling approach for macroeconomic policy making

Course	Details
Year/ Semester	I/I
Type	Core Course (Theory)
Code	EM010103
Title	Statistical Methods for Econometric Analysis
Credits	4
Hrs/ week	5
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Examine the behaviour of random variables by analysing the underlying probability distribution in a theoretical manner
CO2	Evaluate the sampling methods with a view to apply it for analysing the empirical phenomenon and to apply the principles of statistical inference
CO3	Implement statistical techniques using software packages such as Gretl and Rand intuitively interpret the results in plain language.

Course	Details
Year/ Semester	I/I
Type	Core Course (Theory)
Code	EM010104
Title	Mathematical Methods for Econometric Analysis-1
Credits	4
Hrs/ week	5
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Evaluate the underlying mathematical principles, terminology, methods, techniques and conventions used in econometric analysis
CO2	Provide a firm comprehension upon the essential mathematical tools required for econometric analysis
CO3	Apply the appropriate techniques to solve problems with differential calculus, matrices and linear algebra and apply them in static and comparative framework to solve important economic problems

Course	Details
Year/ Semester	I/I
Type	Core Course (Theory)
Code	EM010105
Title	Basic Econometrics
Credits	4
Hrs/ week	5
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Represent the theoretical relationships in economics in econometric terms
CO2	Estimate simple and multiple linear regressions with qualitative and quantitative data
CO3	Explore with the open source econometric software packages such as Gretl, R to estimate cross section econometric models using real world data
CO4	Explain and intuitively interpret the econometric results in theoretical and plain language.

Course	Details
Year/ Semester	I/II
Type	Core Course (Theory)
Code	EM010201
Title	Micro Economic Theory-2
Credits	4
Hrs/ week	5
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Critically appraise the important theories that analytically explain the behaviour of firms
CO2	Analytically evaluate the microeconomic aspects of public choice, behavioural economics, general equilibrium and welfare economics.

Course	Details
Year/ Semester	I/II
Type	Core Course (Theory)
Code	EM010202
Title	Macro Economic Theory-2
Credits	4
Hrs/ week	5
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Examine alternative approaches to modelling consumption behaviour and investment decisions
CO2	Critically dissect the approaches to the demand for money, the supply of money and the role of financial institutions in the economy.
CO3	Appraise the various aspects of policy making especially with respect to the fiscal and monetary issues.

Course	Details
Year/ Semester	I/II
Type	Core Course (Theory)
Code	EM010203
Title	Indian Economy and Fiscal Federalism
Credits	4
Hrs/ week	5
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Appraise the strategy of economic planning and to evaluate the growth process and structural changes of Indian economy.
CO2	Critically comprehend the various debates and issues of Indian economy, possible solutions and their effectiveness.
CO3	Formulate applied economic policies for solving economic problems.
CO4	Analyse the economic problems by using various databases and interpret the trend and issues objectively.

Course	Details
Year/ Semester	I/II
Type	Core Course (Theory)
Code	EM010204
Title	Mathematical Methods for Econometric Analysis-2
Credits	4
Hrs/ week	5
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Appreciate the essential concepts and techniques of advanced calculus, difference and differential equations and apply them in comparative static and dynamic frame work to solve important economic problems.
CO2	Develop a clear understanding with respect to the optimization techniques used in economic theory.

Course	Details
Year/ Semester	I/II
Type	Core Course (Theory)
Code	EM010205
Title	Univariate Time Series Econometrics
Credits	4
Hrs/ week	5
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Understand the various theoretical models to critically evaluate the behaviour of univariate time series
CO2	Apply the theoretical models to the empirical data with a view to estimating the parameters
CO3	Critically comprehend the various methods of estimation of growth rates
CO4	Use the open source econometric software packages such as Gretl, R to estimate time series econometric models using real world data
CO5	Interpret the estimates of the time series models and to analyse the results.

Course	Details
Year/ Semester	II/III
Type	Core Course
Code	EM010301
Title	International Finance and Economics
Credit	3
Hrs/ Week	5
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Have a thorough understanding of the key concepts, theories and their practical applications on issues of international trade and international finance.
CO2	Understand critically the various trade theories and the results of their empirical testing.
CO3	Analyse the links between trade, international finance, economic growth and globalisation.
CO4	Critically comment on and participate in current debates on international economic policy.

Course	Details
Year/ Semester	II/III
Type	Core Course (Theory)
Code	EM010302
Title	Economics of Growth and Development
Credits	3
Hrs/ week	5
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Evaluate critically the theories of economic growth and discuss its implications upon economic development
CO2	Appraise the recent literature, both analytical and empirical, on theories of underdevelopment and growth in developing countries
CO3	Understand the conceptual routes, theoretical dynamics and practical strategies of growth and development

Course	Details
Year/ Semester	II/III
Type	Core Course
Code	EM010303
Title	Public Finance and Public Choice
Credit	3
Hrs/ Week	5
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Discuss critically the theoretical issues of provision of public goods
CO2	Evaluate the theoretical developments with respect to collective choice with a view to appreciate the process of decision making by the public sector
CO3	Appraise the theories of public expenditure and taxation to critically comprehend the role of public sector in a market economy
CO4	Critically discuss the theoretical contributions in fiscal federalism and to examine its practice in the context of Indian economy

Course	Details
Year/ Semester	II/III
Type	Core course
Code	EM010304
Title	Multivariate Time Series Econometrics
Credits	4
Hrs/ week	5(4 lecture hrs & 1 data lab and discussionhr)
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Learn the various theoretical models to critically evaluate the behaviour of multivariate time series
CO2	Apply the theoretical models to the empirical data with a view to estimating the parameters
CO3	Use the open source econometric software packages such as Gretl, R to estimate time series econometric models using real world data
CO4	Interpret the estimates of the time series models and to analyse the results.

Course	Details
Year/ Semester	II/III
Type	Core course
Code	EM010305
Title	Econometrics of Limited Dependent Variable Models and Non Linear Regression
Credits	4
Hrs/ week	5 (4 lecture hrs & 1 data lab and discussion hr)
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Critically understand the various econometric models in which the dependent variables are either qualitative or limited in their range.
CO2	Apply the theoretical models to the empirical data with a view to estimating the parameters.
CO4	Use the open source econometric software packages such as Gretl, R to estimate various limited dependent variable models using real world data.
CO5	Analyse the results and interpret the estimates of the limited dependent variable models both in theoretical and plain language.

Course	Details
Year/Semester	II/IV
Type	Core course
Code	EM010401
Title	Environmental and Ecological Economics.
Credits	3
Hrs/ week	5
Total hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Critically comprehend the economic problems and ecological considerations with respect to the utilisation of resources, climate change, environmental policies.
CO2	Provide more insights about environmental valuation and environment protection movements.
CO3	Familiarize with the practices of global environmental governance and treaties.
CO4	Address the environmental problems and issues with a view to finding practical solutions with a firm grounding in the theoretical developments in environmental and ecological economics.

Course	Details
Year/ Semester	II/IV
Type	Core Course (Theory)
Code	EM010402
Title	Kerala Economy with Database
Credits	3
Hrs/ week	5
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Critically understand the problems, performance, prospects and of the Kerala economy.
CO2	Evaluate the structural changes and sectoral issues of Kerala economy.
CO3	Comprehend critically the fiscal and decentralisation issues of Kerala Economy
CO4	Familiarise the various databases on Kerala economy and use them for analysing the problems of the state economy

CHOICE BASED ELECTIVE

Course	Details
Year/ Semester	II/IV
Type	Elective(Group A)
Code	EM 800401
Title	Financial Econometrics
Credits	3
Hrs/ week	5
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Analyse critically the empirical issues in financial economics and financial markets with the application of various econometric models.
CO2	Critically comprehend and test empirically the efficient markets hypothesis, the predictability of asset returns and volatility models.
CO3	Apply the various theoretical models to the financial data with a view to estimating and predicting the parameters.
CO4	Use the open source econometric software packages such as Gretl, R to estimate various limited dependent variable models using real world data
CO5	Analyse the results and interpret the estimates of the financial econometric models both in theoretical and plain language.

Course	Details
Year/ Semester	II/IV
Type	Elective(Group A)
Code	EM 800402
Title	Panel Data Econometrics
Credits	3
Hrs/ week	5
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Critically understand the econometric techniques to deal with various types of panel data sets.
CO2	Apply critically the various panel data techniques to deal with the error component regression models, serial correlation, heteroscedasticity, seemingly unrelated regressions, simultaneous equations, dynamic models, incomplete panels, limited dependent variables and nonstationary panels.
CO3	Apply the various theoretical models to the panel data sets with a view to estimating the parameters.
CO4	Use the open source econometric software packages such as Gretl, R to estimate various limited dependent variable models using real world data.
CO5	Analyse the results and interpret the estimates of the limited dependent variable models both in theoretical and plain language.

Course	Details
Year/ Semester	II/IV
Type	Elective(Group A)
Code	EM 800403
Title	Experimental Design and Cliometrics
Credits	3
Hrs/ week	5
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Critically understand the econometric techniques to deal with various types of panel data sets.
CO2	Apply critically the various panel data techniques to deal with the error component regression models, serial correlation, heteroscedasticity, seemingly unrelated regressions, simultaneous equations, dynamic models, incomplete panels, limited dependent variables and non stationary panels.
CO3	Apply the various theoretical models to the panel data sets with a view to estimating the parameters.
CO4	Use the open source econometric software packages such as Gretl, R to estimate various limited dependent variable models using real world data.
CO5	Analyse the results and interpret the estimates of the limited dependent variable models both in theoretical and plain language.

Course	Details
Year/ Semester	II/IV
Type	Elective(Group B)
Code	EM 810401
Title	Microeconometrics
Credits	3
Hrs/ week	5
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Develop competence in using standard tools of Micro econometrics including ordinary least squares (OLS), instrumental variables (IV), probits and logits.
CO2	Critically understand economic problems by using information on what economic agents actually do, then use economic theory with econometric techniques to predict what they would do.
CO3	Apply the micro econometric models to the empirical data with a view to estimating the parameters.
CO4	Use the open source econometric software package R to estimate the models using real world data and interpret the estimates both in theoretical and plain language.

Course	Details
Year/ Semester	II/IV
Type	Elective(Group B)
Code	EM 810402
Title	Macroeconometrics
Credits	3
Hrs/ week	5
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Appreciate critically the theoretical underpinnings of macroeconomic policymaking.
CO2	Critically discuss the different theoretical approaches in macro econometric modelling.
CO3	Appraise the inter temporal optimization methods in Macro econometrics.

Course	Details
Year/ Semester	II/IV
Type	Elective(Group B)
Code	EM 810403
Title	Econometrics of Policy Evaluation
Credits	3
Hrs/ week	5
Total Hrs	90

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	Provide the set of both theoretical and applied tools in order to illustrate the correct implementation of modern micro-econometric techniques for programevaluation in economics.
CO2	Develop competencies to appraise the impact of economic and social programs through evidence-based econometric evaluations.
CO3	Design rigorous and effective ex post program evaluation using the statisticalsoftware package R.

Course	Details
Year/ Semester	I/II
Type	Practical
Code	EM010206
Title	Term Paper on Econometric Methods

Credits	2
Hrs/ week	1

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	To equip the students to analyses research problems
CO2	To equip the students to use appropriate tools of econometrics
CO3	To provide real world experience with econometrics application

Course	Details
Year/ Semester	II/III
Type	Practical
Code	EM010306
Title	Internship Report On Econometric Issues
Credits	2
Hrs/ week	1

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	To provide first hand practical experience with database
CO2	To equip the student to use appropriate econometric software packages
CO3	To provide opportunity for learning by doing with real world database

Course	Details
Year/ Semester	II/IV
Type	Project
Code	EM010403
Title	Project/Dissertation
Credits	2

CO No.	CO Statement
	Upon completion of this course, the students will be able to:
CO1	To provide mastery of econometric insight with a view to analyzing and interpreting database
CO2	To critically understand the socio economic aspects of social phenomena using econometrics
CO3	The learner could assimilate the theoretical knowledge and expertise required to evaluate, develop and report it with econometric interpretation