Central University of Kerala

Department of Economics

School of Economics

Ph.D. Programme: Economics

Syllabus w.e.f 2019-'20

Programme Name: **Ph.D. Economics**
Programme Code: **EEC07**

Programme Outcome

After successful completion of Ph.D. Programme in the department of economics, doctoral students will be able to:

PO 1: Critical thinking: Take informed decisions appreciating various dimensions of the situation under consideration.

PO 2: Effective Communication: Speak, read, and write in English

PO 3: Effective Citizenship and ethics: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering

PO 4: Environment and Sustainability: Understand the issues of environmental contexts and sustainable development

PO 5: Assess socio-economic issues with appropriate statistical and research tools and suggest suitable remedial measures.

PO 6: Undertake responsibilities such project assessments and cost benefit analysis

PROGRAMME SPECIFIC OUTCOME

PSO 1: awareness of and sensitivity to local, national and global problems related to deprivation, socio- political issues, gender, environment, and discriminatory and exclusionary practices.
PSO 2: Incorporated Self-directed and Life-long Learning

PSO 3: Develop an ability to apply knowledge acquired in problem solving

POS 4: Understand the behavior of Indian and World economy

POS 5: Analyse various policies including fiscal and monetary policies of government

POS 6: Determine economic variables including inflation, unemployment, poverty, GDP, Balance of Payments using statistical and econometric methods

POS 7: Understand the behaviour of financial and money markets and perform cost-benefit analysis for making investment decisions

POS 8: Link daily developments in the economy with existing insights in economics

Central University of Kerala

Department of Economics, School of Economics

Ph.D. (Economics)

Structure for Ph.D. Course Work in Economics

Course Code	Courses	Credits	Lecture Hours per week	Tutorial Hours per week
EEC7101	Research Methodology	4	4	2
EEC7102	Macroeconomic Theory I	4	4	2
EEC7003		4	4	2
EEC7004		4	4	2
Total Credits	**72**			

Course Code	EEC 7101	Semester	I
Course Title	Research Methodology		
Credits	4	Type	Core

Course Description

The course provides the advanced research methodology which required for doctoral research students. It covers fundamentals of scientific research, philosophy of scientific research, research designs for qualitative, quantitative and mixed methods. Further, it provides sampling techniques, scaling techniques, methods of observation and testing of hypothesis. Final segment of this course offers research proposal and report writing strategies.

Course Outcome

By the end of the course, students are expected to be able to:

- Clarity about fundamentals of methodology of economic research.
- help the student to select comprehensive research approach and frame research design, observation tools and enable them to do analyses, interpretation and report writing.

Course Structure

Module - I: Fundamentals of Scientific Research

1. Introduction to Research: Meaning, Stages in the Research Process
2. Scientific Methods of Research: Popper, Lakatos, Friedman, Kuhn and McCloskey
3. Epistemology, Ontology and the Methodology of Science.
4. Approaches to Research: Quantitative, Qualitative and Mixed
5. Research Questions and Hypotheses: Meaning, Types and Sources, Theory and Scientific Law, Steps in Testing of Hypothesis
6. Types of Research - Survey Research - Longitudinal Research – Exploratory Research - Experimental Research - Case Study Research - Participatory Rural Appraisal and Evaluation Research

Module - II: Modes of Observation and Scaling Techniques

1. Primary Data: Questionnaire, Interview Schedules, Interview Survey, Postal Survey, Online Survey and Case Study method.
2. Secondary Data: Types, Sources and Selection Criteria
3. Scaling Techniques: Different types of Scaling Techniques (Thurstone and Likert)

Module - III: Research Design and Thesis Writing

1. Research Design: Need, Features, Important Concepts of Research Design

2. Review of Literature and Theory: Selection, Collection, Review of Literature Writing and Developing a Theoretical Framework
3. Developing Research Proposal and Writing Thesis –Mechanics of Thesis Writing.

Module - IV Processing and Analysis of Data

1. Quantifying Data - Coding - Classification and Tabulation - Descriptive Statistical Measures – Averages, Dispersion, Correlation and Regression - Analysis of Time Series - Association of Attributes (Simple problems)
2. Analyzing Qualitative Data - Scaling Techniques – Issues in Scaling – Thurston– Likert

Module - V Quantitative Techniques and Computer Applications

1. Univariate Inferences - Point and interval estimation.
2. Large sample z – test (Simple problems)
3. Small Sample test - t, F and χ^2 - Assumptions, Properties & Uses (Simple problems).
4. Multivariate Techniques - Factor Analysis - Path Analysis – Multiple Regressions – Discriminant Function Analysis.
5. Introduction to Computer- Computer Applications in Economics - Statistical Package - SPSS.

Testing & Evaluation

Internal Evaluation consisting of Seminar, Group discussions, Assignment, Mid-term exam and final end semester examination.

References:

- Babbie, Earl. R. 2013. “The Practice of Social Research.” Cengage Learning, Canada.
- Blaug, Mark. 1994. “The Methodology of Economics.” Cambridge University Press, Cambridge.
- Daniel M. Hausman. 2007. “The Philosophy of Economics: An Anthology.” Cambridge University Press, Cambridge.
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- Gupta, Santosh. 2003. “Research Methodology and Statistical Techniques.” Deep and Deep Publications, New Delhi.
- John W. Creswell. 2014. “Research Design: Qualitative, Quantitative and Mixed Methods Approaches.” Sage Publication, Washington, USA.
- Kate L. Turabian. 2006. “A Manual for Writers of Term papers, Theses and Dissertations.” The University of Chicago press, Chicago.

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- Mukherjee Neela. 1997. “Participatory Rural Appraisal and Methodology and Applications (Studies in Rural participation-1).” Concept Publishing Company, New Delhi.
- Mukherji, Partha Nath. 2000. “Methodology in Social Research.” Sage Publication, New Delhi.
- Sankar.U., and Lakshmanasamy.T. 1993. “Methodology of Applied Economic Research.” Sterling Publishers, New Delhi.
- Thakur, Devendra. 2003. “Research Methodology in Social Science.” Deep and Deep Publications, New Delhi.
- Wilkinson, Bhandarkar. 2003. “Methodology and Techniques of Social Research.” Himalaya Publishing House, Bombay.
- Young, Pauline V. 1994. “Scientific Social Survey Surveys and Research.” New Delhi, Prentice Hall of India Private Limited.

Course Code	EEC 7103	Semester	I
Course Title	Core Area of Research: Climate Change and Agriculture (Information, Institutions and Climate Change Adaptation in Agriculture)		
Credits	4	Type	Core

Course Description

The course provides the components of climate change and agriculture and their inter-linkages. It includes information, institution and climate change, agricultural information system, climate change adoption in agriculture, climate change and sustainable agriculture.

Course Outcome

By the end of the course, students are expected to be able to:

- to make the students enable to approach the research topic by enrich in relevant theories and concepts.
- Student will be equipped with fundamentals of economics of information, institutions and their role.
- Student will be equipped with climate change adaptation in agriculture, and their inter-linkages.

Course Structure

Module I: Introduction - Information, Institutions and Climate Change

1. Information - economics of information, agricultural information and recent trend
2. Institutions - dimensions and functions, institutions in agricultural
3. Climate Change - meaning, trend, agreements, consequences, impact on agriculture

Module - II: Agricultural Information and Institutions

1. Types of agricultural information, sources of information and role of ICT
2. Agricultural information dissemination framework in India and various states
3. Interaction between information dissemination institutions over the period
4. Status of information access among the farmers, current status and impediments

Module - III: Climate Change and Agriculture

1. On-site and off-site environmental problems in agriculture
2. Drivers of resource degradation
3. Impact of Climate change on agriculture in India and various states
4. Sustainable water management in agricultural sector

Module - IV: Climate Change Adaptation in Agriculture

1. Need of climate change adaptation in agriculture and sustainability issues
2. Role of information and institutions in climate change adaptation in agriculture
3. Climate change adaption in agriculture and their impact in output

Module - V: Green Technology and Sustainable Agriculture

1. Green Technology - Meaning, need, development and adaptation in agriculture
2. Sustainable Agriculture - Trend of climate change adaptive sustainable agriculture, green technology and sustainable agriculture
3. Polices and other initiatives of climate change adaptation, green technology and sustainable agriculture

Testing & Evaluation

Internal Evaluation consisting of Seminar, Group discussions, Assignment, Mid-term exam and final end semester examination.

Reference

Module - I: Introduction - Information, Institutions and Climate Change

George J. Stigler. 1961. "The Economics of Information." *Journal of Political Economy*, Vol. 69 (3): 213 - 225.

Michael K Buckland. 1991. "Information as Thing." *Journal of the American Society for Information Science*, Vol. 45(5): 351-360.

Karl-Gustaf Löfgren, Torsten Persson and Jörgen W. Weibull. 2002. "Markets with Asymmetric Information: The Contributions of George Akerlof, Michael Spence and Joseph Stiglitz." *The Scandinavian Journal of Economics,* Vol. 104(2): 195-211.

George A. Akerlog. 1970. "The Market for "Lemons": Quality Uncertainty and the Market Mechanism." Quarterly Journal of Economics, Vol.84(3):488-500.

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Module - II: Agricultural Information and Institutions

Adhiguru P., P.S.Birthal and B.Ganesh Kumar. 2009. "Strengthening Pluralistic Agricultural Information Delivery Systems in India." *Agricultural Economic Research Review*, Vol. 22: 71-79.

Eisgruber L. M. 1967. " Micro-and Macro-Analytic Potential of Agricultural Information Systems." *Journal of Farm Economics,* Vol. 49(5): 1541 – 1552.

Reddy Eswara D.B. 1987. "Agricultural Information Transfer in India." *Information Development,* Vol. 3(3): 167-170.

Sreenivasulu V. and H.B. Nandwana. (2001) "Networking of Agricultural Information Systems and Services in India." *INSPEL*, Vol. 35(4): 226 - 235.

Ballantyne Peter. 2009. " Accessing, Sharing and Communicating Agricultural Information for Development: Emerging Trends and Issues." *Information Development,* Vol. 25(4): 260-271.

Vaidyanathan A. *(2010).* "Agricultural Growth in India: Role of Technology, Incentives, and Institutions." *Oxford University Press*, New Delhi, India.

Module - III: Climate Change and Agriculture

Richard M. Adams. 1989. "Global Climate Change and Agriculture: An Economic Perspective." *American Journal of Agricultural Economics*, Vol. 71(5): 1272-1279.

Richard M. Adams, Brian H. Hurd, Stephanie Lenhart, and Neil Leary. 1998. "Effects of Global Climate Change on Agriculture: An Interpretative Review." *Climate Research,* Vol. 11: 19-30.

Palanisami K., Kakumanu K.R., Nagothu U.S., and Ranganathan C.R.2019. " Climate Change and Agriculture in India." In: Climate Change and Future Rice Production India. India Studies in Business and Economics. *Springer,* Singapore.

Palanisami K., Ranganathan C.R., Udaya Sekhar Nagothu, and Krishna Reddy Kakumanu. 2014. "Climate Change and Agriculture in India: Studies from Selected River Basins." Routledge-Taylor and Francis Group, New Delhi.

Kavi Kumar K.S., and Jyoti Parikh. 2001. "Indian Agriculture and Climate Sensitivity." *Global Environmental Change,* Vol. 11 (2): 147 - 154.

Kavi Kumar K.S. 2007. "Climate Change Studies in Indian Agriculture." *Economic and Political Weekly,* Vol. 42 (45/46): 13 - 15.

Module - IV: Climate Change Adaptation in Agriculture

Ariel Dinar, Robert Mendelsohn, Robert Evenson, Jyoti Parikh, Apurva Sanghi, Kavi Kumar, James McKinsey and Stephen Lonergan. 1998. "Measuring the Impact of Climate Change on Indian Agriculture." *World Bank Technical Paper,* World Bank.

Kurukulasuriya Pradeep and Shane Rosenthal. 2003. "Climate Change and Agriculture: A Review of Impact and Adaptations." *The World Bank,* Washington.

Jeetendra Prakash Aryal, M.L. Jat, Tek B. Sapkota, Arun Khatri-Chhetri, Menale Kassie, Dil Bahadur Rahut, and Sofina Maharjan. "Adoption of Multiple Climate-Smart Agriculture Practices in Gangetic Plains of Bihar, India." *International Journal of Climate Change Strategies and Management,* Vol. 10(3): 407-427.

Mall R.K., Akhilesh Gupta, Ranjeet Singh, R. S. Singh and L. S. Rathore. 2006. "Water Resources and Climate Change: An Indian Perspectives." *Current Science,* Vol. 90(12): 1610 - 26.

Module - V: Green Technology and Sustainable Agriculture

John P. Reganold, Robert I. Papendick and James F. Parr. 1990. "Sustainable Agriculture." *Scientific American*, Vol. 262 (6): 112- 121.

Abrol I. P, . and Sunita Sangar. 2006. " Sustaining Indian Agriculture – Conservation Agriculture the Way forward." *Current Science,* Vol. 91 (8): 1020 – 1025.

Borch Kristian. 2007. "Emerging Technologies in Favour of Sustainable Agriculture." *Futures*, Vol. 39(9): 1045-1066.

Ghadiyali, T. R. ; Kayasth, M. M. 2012. "Contribution of Green Technology in Sustainable Development of Agricultural Sector." *Journal of Environmental Research and Development,* Vol. 7 (1A): 590 - 596.

David R. Lee. 2005. "Agricultural Sustainability and Technology Adoption: Issues and Policies for Developing Countries." American Journal of Agricultural Economics, Vol. 87 (5): 1325-1334.

Peter Arellanes and David R. Lee. 2003. "The Determinants of Adoption of Sustainable Agriculture Technologies: Evidence from the Hillsides of Honduras." Proceedings of the 25th International Conference of Agricultural Economists (IAAE), 16 . 22 August 2003, ISBN Number: 0-958-46098-1 Durban, South Africa.

Course Code	EEC 7104	Semester	I
Course Title	Research Proposal and Review of Literature		
Credits	6	Type	Core

Course Description

The course provides the components of research proposal writing and literature survey and review. It covers identification of research problem, review of literature and to understand the review of literature and framing the sample selection and observation techniques. In addition, it gives the learning about analytical, conceptual and theoretical framework of the study and make useful blueprint for the proposed research topic.

Course Outcome

By the end of the course, students are expected to be able to:

- Student will clear understanding about the components of research proposal and writing.
- Student will be equipped with collection, classification and reviewing the past studies.
- It will help the student to understand the construction of conceptual, theoretical and analytical framework.

Course Structure

Module I: Introduction

Identification of research area - Justification for Problem Selection - Statement of Research Problem - Research Issues and Question - Rational of the Study - Chapter Scheme.

Module II: Review of Literature and Research Gap

Literature Survey - Stratification and Ordering - Critical Review and Presentation - Identification of Research Gap and corroboration with issues and questions - Construction of Objectives and Hypotheses - Primary and Secondary Data Requirement - Sampling Selection and Data Collection Techniques.

Module III: Conceptual and Analytical Framework

Defining the Concepts - Primary Analyses - Statistical and Econometric Techniques Proposed for Testing of Hypotheses - Details about Application of Statistical Packages.

Module IV: Theoretical Framework

Theoretical Framework: Selection - Justification - Corroboration and Gap.

Module V: Research Design

Preparation of Draft Research Proposal: Introduction and Statement of the Problem - Research Issues and Questions - Need for the Study - Research Gap - Objectives - Hypotheses - Materials and Methods - Conceptual and Analytical Framework - Limitations and Delimitations - Chapter Scheme - Use of Citation Model.

Testing & Evaluation

Final end semester examination.

References

1. Babbie, Earl. R. 2013. "The Practice of Social Research." Cengage Learning, Canada.
2. John W. Creswell. 2014. "Research Design: Qualitative, Quantitative and Mixed Methods Approaches." Sage Publication, Washington, USA.
3. Goode J. William and Hatt K. Paul. 1952. "Methods in Social Research." McGraw-Hill Publishers, New York.
4. Kate L. Turabian. 2006. "A Manual for Writers of Term papers, Theses and Dissertations." The University of Chicago press, Chicago.
5. Blaug, Mark. 1994. "The Methodology of Economics." Cambridge University Press, Cambridge.
6. Daniel M. Hausman. 2007. "The Philosophy of Economics: An Anthology." Cambridge University Press, Cambridge.