Central University of South Bihar

School of Social Sciences and Policies
Department of Economic Studies and Policy (DESP)

Course Structure and Syllabus
for
Course Work of Ph.D. Programme in Economics

CONTENTS

Programme Objectives:

The Objectives of the PhD programme are to:
1. Provide the opportunity to the students to apply the learned theories of economics in their chosen area of research.
2. Sharpen analytical skills of students through integrating knowledge of economic theory with the decision- making techniques.
3. Enable students to demonstrate professionalism, self-awareness, leadership and effective communication skills.
4. Enable students to use information and knowledge effectively through scanning, organizing, synthesizing and analysing various socio-economic data and share knowledge.
5. Make students able to use current techniques, skills and tools necessary for a study of economic aspects.
6. Make students recognize the importance of professional development by pursuing doctorate studies.
7. Enable students to conceptualise economics foundations to solve practical decision-making problems individually and as part of teams using different econometric techniques.
8. Make students able to demonstrate a critical awareness of current economic issues through cutting-edge research and practice in the field.

Program Learning Outcomes:

After successful completion of the programme, the students will be able to:
1. Demonstrate comprehensive knowledge of different dimensions of economic research.
2. Apply different tools and techniques of research in economic analysis.
3. Conduct research that tries to deepen specialization in a particular professional direction.
4. Conduct research which helps to shape the future of specialists through individual cognitive activities aimed at obtaining new knowledge, solving theoretical and practical problems, self-education and self-realization.
5. Undertake funded research from development agencies.
6. Understand several economic problems encountered in India including the economic problems of Bihar.
7. Demonstrate knowledge and skills in economics and related fields relevant for employment opportunities in academic and non-academic institutions.

A. The PhD Course Structure

PhD coursework duration is of twelve (12) months. The coursework will consist of twelve (12) credits and four (04) courses. The details course structure is given below:

Semester I			
Course Code	**Course Title**	**Credits**	**No. of contact hours**
ECO101DC00102	*Research Methodology*	*02*	*30*
ECO101DC00204	*Tools and Techniques of Research*	*04*	*60*
	Total	*06*	*90*
Semester II			
Course Code	**Course Title**	**Credits**	**No. of contact hours**
ECO102DC00302	*Research and Publication Ethics*	*02*	*30*
ECO102DC00404	*Preparation & Presentation of Research Proposal*	*04*	*60*
	Total	*06*	*90*

A candidate admitted to the PhD Programme in Economics shall be required to complete the coursework in two semesters and fulfil the requirements mentioned in the Ordinances of the PhD Programmes of the Central University of South Bihar. However, a minimum of 75% attendance shall be required in the Course Work for the research scholars registered on a part-time basis.

The concerned faculty shall evaluate the courses: ECO101DC00102, ECO101DC00204 & ECO102DC00302, and the evaluation report is to be sent to the office of the Controller of Examinations.

Regarding the Course Code ECO102DC00404, 100 marks allotted for this will be split into two parts, 75% for research proposal writing and 25% for its presentation. For this, the evaluation shall be done jointly by the Research Advisory Committee (RAC) and the Departmental Research Degree Committee (DRDC) and submitted to CoE.

There shall be only an end-semester University examination of 100 marks for all four courses. The Grading system shall be the same as the courses under the M.A. Programme in Economics. Grades in the course work of all the courses shall be finalised after a combined assessment by the Research Advisory Committee and the DRDC. A Ph.D. scholar has to obtain the minimum percentage of marks/grade points as prescribed in the PhD Ordinances.

B. Syllabus for the coursework

SEMESTER ONE

ECO101DC00102: Research Methodology

Course Code	ECO101DC00102	Credits	02
L + T + P	23+07 + 0	Course Duration	One Semester
Semester	Odd	Contact hours	30 (L) +07 (T) +0 (P) = 30 hrs.
Pedagogy	Classroom teaching, group discussions, tutorial sessions, and presentations.		
Evaluation	Continuous assessment will be done through tutorials, assignments, quizzes, and group discussions. Weightage will be given for active participation. The final written examination will be conducted at the end of the course.		

Course Objectives:

- This course will familiarise the Ph.D students with the basic concept and types of research.
- The emphasis of this course will be on the discussion on the formulation of a research problem, research process, primary data collection tools, secondary data and e-resources.

Learning Outcomes:

- The students will learn about the preparation of a research proposal.
- This course will enablestudents to learn various types of research and apply the relevant tools and techniques
- This course will enable students to use and avail the benefit of e-resources and Databases for research.

Course Contents and Teaching Plan:

Unit	Contents	Teaching Hours
1	**Research:** A Conceptual Framework, Meaning and Concept. Knowledge, Facts, Principles, Theories and Research as sources of knowledge; Scientific method of inquiry and basic steps of research; Types of research: Basic, Applied and Action Research; Methods and Methodology, Intellectual Property Rights.	1-7 [L]
2	**Data Collection & Designing a Survey: Nature of Data**: Primary and Secondary; Quantitative and Qualitative; Features of Cross Section, Time Series and Panel Data; Measurement Scales; Objectives of the socio economic field surveys; Sampling strategy; Implementing the surveys – questionnaire design; Data preparation using software for analysis.	8-15 [L]
3	**E-Resources and Databases:** Use of E-resources and Applications of ICT in research; Different data sources and their characteristics - C.S.O.; National Sample Surveys; National Accounts Statistics; National Family Health Surveys; Indian Public Finance Statistics; R.B.I. publications; World Bank and IMF databases; UNCTAD*STAT*.; CMIE databases;	16-23 [L]

	Annual Survey of Industries; Census and other government publications. Limitations of existing databases of India – Reliability and inter-temporal comparability of data.	
Tutorials		07 [T]

Recommended texts:

- de Vaus, D. Research Design in Social Research. Thousand Oaks, CA: Sage Publications,2001.
- Fink, Arlene & J Kosecoff,*How to Conduct Surveys: A Step by Step Guide*, Sage, UK.1998.
- Groves, R. M., Fowler, F. J., Couper, M. P., Lepkowski, J. M., Singer, E. and Tourangeau, R. *Survey Methodology*. Hoboken, New Jersey: Wiley, 2009.
- Kothari, C. R. *Research Methodology: Methods and Techniques.* (2nd ed.), New Delhi: New Age International (P) Ltd.,2004.
- Mitchell, M. L. & Jolley, J. M. *Research Design Explained* (7th ed.), US: Wadsworth, Cengage Learning,2010.
- Somekh, B and C Lewin,*Research Methods in Social Sciences*, Vistaar Publications, New Delhi, 2005.
- Vander Stoep, S. W & Deirdre D. J. *Research methods for everyday life: blending qualitative and quantitative approaches* San Francisco: John Wiley & Sons ISBN 978-0-470-34353-1, 2009.
- Raman, V.Raja. Fundamentals of Computer. New Delhi: Prentice Hall India.P.C, Software Windows Made Simple, Tasali, Tata McGraw-Hill Publication.

Additional References:

- Chandrasekhar, C.P.,&Jandhyala B G Tilak (eds.),*India's Socio-Economic Database: Survey of Selected Areas*, Tulika, New Delhi,2001.
- *Journal of Development Economics*, (Special Issue on Database for Development Analysis, edited by T N Srinivasan),Vol. 44, No. 1, 1994.
- Desai, Vandana& Robert B Potter (eds.).*Doing Development Research*, Sage Publications, New Delhi,2006.
- Devereux, Stephen & John Hoddinott (eds.).*Fieldwork in Developing Countries*, Lynne Rienner Publishers, Boulder, Colorado,1993.

ECO101DC00204: Tools and Techniques of Research

Course Code	ECO101DC00204	Credits	04
L + T + P	45+ 15 + 0	Course Duration	One Semester
Semester	Odd	Contact hours	45 (L) + 15 (T) +0 (P) = 60 hrs.
Pedagogy	Classroom teaching, group discussions, practical sessions, presentations and tutorials.		
Evaluation	Continuous assessment will be done through tutorials, assignments, quizzes, and group discussions. Weightage will be given for active participation. The final written examination will be conducted at the end of the course.		

Course Objectives:

- This course will familiarise the students with various tools and techniques of research in economics. It will discuss the issues relating to hypothesis formation and testing of hypotheses.
- Train the students on the applications of various econometric tools for data analysis using econometric software packages like EViews and Stata.

Learning Outcomes:

- The course will enable students to develop skills for econometric analysis of various data types.
- The students will be able to analyse various socio-economic issues using empirical data using econometric methods.

Course Contents and Teaching Plan:

Unit	Contents	Teaching Hours
1	**Inferential Statistics:**Review of Probability Theory and Distribution; Tests of Hypotheses- Basic definitions, Tests based on z, t, F and Chi-square statistic.	1-6 [L]
2	**Classical Linear Regression Model:** Stages in Empirical Research, Assumptions of CLRM and Estimation (OLS and GLS); Regression Diagnostics and Specification: Misspecification; functional forms; model selection; Applications using a software package.	7-16 [L]
3	**Time Series Regression:** Stationarity, Random Walk/Unit Root test, Estimating ARIMA Models; ARMA Equation Diagnostics; Multivariate Time Series: VAR, Cointegration; Volatility Models: Univariate and Multivariate GARCH Models; Applications using a software package.	17-26 [L]
4	**Panel Data Models:** Pooled Cross Section models, Panel Data Models: Fixed Effects (FE) and Random Effects (RE) Estimators; Introduction to Dynamic Panel Data Model. Applications using a software package.	27-32 [L]
5	**Models of Limited Dependent and Qualitative Variables:** Logit, Probit, Tobit, and Truncated Models; Applications using a software package.	33-40 [L]

6	**Multivariate Analysis and Indexing:** Factor analysis; Principal component analysis.	41-45 [L]
	Tutorials	15 [T]

Recommended texts:

- Badi H Baltagi, *Econometric Analysis of Panel Data*, John Wiley & Sons, United Kingdom, 2008.
- Bhaumik, S. K.,*Principles of Econometrics: A Modern Approach Using EViews*, Oxford University Press, New Delhi,2015.
- Brooks, Chris, *Introductory Econometrics for Finance*, 3rd edition, Cambridge University Press, 2015.
- Enders, Walter, *Applied Econometric Times Series.* (3rd edition). Wiley, 2012.
- Gujarati, D. *Econometrics by Example.* Palgrave-Macmillan, 2011.
- Mukherjee, Chandan, Howard White and Marc Wuyts, Econometrics and Data Analysis for Developing Countries. Taylor & Francis,1998.
- Newbold, Paul et al., *Statistics for Business and Economics*, 8th edition, Pearson, England, 2013.
- Spencer, N H, *Essentials of Multivariate Data Analysis*, CRC Press, New York, 2014.
- Tsay, Ruey S., *An Introduction to Analysis of Financial Data with R*, Wiley, 2013.
- Tsay, Ruey S., *Multivariate Time Series Analysis: with R and Financial Applications*, Wiley, 2014.
- Wooldridge, J.M. *Econometric Analysis of Cross Section and Panel Data*. MIT Press, 2010.

Additional References:

- M. Verbeek. A Guide to Modern Econometrics, 2nd(edition), 2004.
- Field, Andy., Jeremy Miles and Zoë Field,*Discovering Statistics* with *R.* Sage, 2012.
- Maddala and Lahiri, Introduction to Econometrics, John Wiley & Sons, 2009.

SEMESTER TWO

ECO102DC00302: Research and Publication Ethics

Course Code	ECO102DC00302	Credits	02
L + T + P	1.5+ 0 + 1.5	**Course Duration**	One Semester
Semester	Even	**Contact hours**	15 (L) + O (T) + 15 (P) = 30 hours
Pedagogy	Classroom teaching, guest lectures, group discussions, and practical sessions and presentations.		
Evaluation	Continuous assessment will be done through tutorials, assignments, quizzes, and group discussions. Weightage will be given for active participation. The final written examination will be conducted at the end of the course.		

Course Objectives:

- This course intends to provide awareness about publication ethics and publication misconduct.

Learning Outcomes:

- The RPE enable the scholars to understand the basics of philosophy of science and ethics, research integrity, and publication ethics through hands-on sessions to identify research misconduct and predatory publications. Indexing and citation databases, open access publications, research metrics (citations, h-index, Impact Factor, etc.) and plagiarism tools will be introduced in this course.

Course Contents and Teaching Plan:

Unit	Contents	Teaching Hours
	Part I: THEORY	
1	**Philosophy and Ethics:** Introduction to philosophy: nature and scope, concept, branches. Ethics: definition, moral philosophy, nature of moral judgements and reactions.	1-4 [L]
2	**Scientific Conduct:** Ethics with respect to science and research, Intellectual honesty and research integrity, Scientific misconduct: Falsification, Fabrication, and Plagiarism (FFP). Redundant publications: duplicate and overlapping publications, salami slicing. Selective reporting and misrepresentation of data.	5-9 [L]
3	**Publication ethics**: definition, introduction and importance. Best practices/standards setting initiatives and guidelines: COPE, WAME, etc. Conflicts of interest. Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types. Violation of publication ethics, authorship and contributorship. Identification of publication misconduct, complaints and appeals. Predatory publishers and journals.	10-15 [L]
	Part II: PRACTICE	
4	**Open Access Publishing:** Open access publications and initiatives, SHERPA/RoMEO online resource to check publisher copyright &	16-19 [P]

	self-archiving policies, Software tool to identify predatory publications developed by SPPU, Journal finder/journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggester, etc.	
5	**Publication Misconduct: A)**Group Discussions: Subject specific ethical issues, FFP, authorship. Conflicts of interest. Complaints and appeals: examples and fraud from India and abroad.**B) Software tools:** Use of plagiarism software like Turnitin, Urkund and other open source software tools.	20-23 [P]
6	**Databases and Research Metrics: A) Databases:** Indexing databases. Citation databases: Web of Science, Scopus, etc. **B) Research Metrics:** Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score. Metrics: h-index, g index, i10 index, almetrics.	24-30 [P]
Total		30 [L]

Recommended texts:

- Bird, A. *Philosophy of Science,* Routledge,2006.
- Kumar, R.,*Research Methodology, a step-by-step guide for beginners*. SAGE Publications Ltd. Mathura Road, New Delhi,2011.
- Chaddah, P. *Ethics in Competitive Research: Do not get Scooped; do not get Plagiarised*, 2018. ISBN: 978-938748086
- Indian National Science Academy (INSA),*Ethics in Science Education, Research and Governance.* ISBN: 978-81-939482-1-7, 2019. http://www.insaindia.res.in/pdf/Ethics_Book.pdf
- MacIntyre, Alasdair (1967). A Short History of Ethics. London.
- National Academy of Sciences, National Academy of Engineering and Institute of Medicine. *On Being a Scientist: A Guide to Responsible Conduct in Research*: Third Edition. National Academies Press,2009

Additional References:

- Resnik, D.B,What is Ethics in Research & Why is it Important. National Institute of Environmental Health Sciences, 1-10, 2011. Retrieved from https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm
- Beall, J. Predatory publishers are corrupting open access. Nature, 489(7415), 179-179. 2012, https://doi.org/10.1038/489179a

ECO102DC00404:Preparation and Presentation of Research Proposal

Course Code	ECO102DC00404	Credits	04
L + T + P	---	Course Duration	One Semester
Semester	Even	Contact hours	60 contact hours
Pedagogy	Discussionsand presentations.		
Evaluation	100 marks allotted for this will be split into two parts, 75% for research proposal writing and 25% for its presentation.		

Course Objectives:

- The course intends to develop PhD scholars' writing and oral presentation skills while preparing their respective research proposals.

Learning Outcomes:

- The course will enable the scholars to identify their research topic and formulate the research problems lucidly.
- The students will learn the art of writing a researchproposal/paper/dissertation.

Course Contents and Teaching Plan:

Unit	Contents	Contact Hours
1	**Part I: Preparation of Research Proposal**:Literature Survey, Identification of the topic for Ph.D. research and preparation of research proposal in the standard format as per the University guidelines.	60
2	**Part II: Oral Presentation of Research Proposal:** The research proposal on the topic chosen by the candidate for her/his Ph.D. shall be submitted as per the writing discipline, followed by a seminar presentation. Each student shall be required to articulate in about 5000 words her/his individual subject of study in the intended area of research by a selected bibliography. The written submission on the chosen topic shall be evaluated for 75% weightage and the seminar presentation for 25% weightage. The research proposal is supposed to give evidence of two things: a comprehensive review of existing literature of the past studies in the subjectarea and the student's awareness of and adherence to the discipline of writing research proposal/paper/dissertation and documentation.	