




Mandatory Pre-PhD Coursework

In addition to other Pre PhD courses, the UGC-mandated Pre PhD courses are

- a. Research Methodology (ASL710)
- b. Research and Publication Ethics (CLL750)

Their curriculum is shown below:

Syllabus for Applied Sciences

Department:	 Department of Applied Sciences (APS)		
1. Course Name: Research Methodology (SOET)	2. Course Code	3. L-T-P	4. Credits
	ASL710	3-1-0	4
5. Type of Course (Check one):	Programme Core <input checked="" type="checkbox"/> Programme Elective <input type="checkbox"/> Open Elective <input type="checkbox"/>		
6. Frequency of offering (check one): Odd <input type="checkbox"/> Even <input checked="" type="checkbox"/> Either Sem. <input type="checkbox"/> Every Sem. <input type="checkbox"/>			
Brief Syllabus: Research plan, Research problem, Research Design, Probability, Bayes' Theorem, Special types of random variables, Joint distribution of random variables, Central Limit theorem, Sampling, Frequency Distribution, Measures of central tendency, Measures of dispersion, Measures of relationship, Confidence Intervals, hypothesis testing, correlation and regression, Data Analytics			
7. Total lecture and Practical Hours for this course: <div style="display: flex; justify-content: space-between;"> 45 hrs-Lecture 15 hrs-Tutorial </div>			
8. Course Outcomes (COs) The objective of this course is to enable the students to: <ul style="list-style-type: none"> (a). Develop research orientation among the research scholars (b). Comprehend research process to formulate research design (c). Understand research questions and motivate students towards preparing for carrying out independent applied research. (d). Built strong foundation in Statistics 			
CO 1	Define research problem, Prepare Research design and conduct literature survey		
CO 2	Understand concepts of probability and probability distributions		
CO 3	Test the hypothesis and check for statistical significance		
CO 4	Understand the basics of data analytics		
9. UNIT WISE DETAILS No. of Units: - 6			
Unit: I Research Design			Hours: 6
Developing a research plan, Research problem- selection and defining, Literature review, Research gaps, Research Designs- Elements, Need, Features and types, Developing Research Studies, Logical framework, methods to plan resources and validation of results			
Unit: II Descriptive Statistics			Hours: 8
Sampling, sampling distribution, Frequency Distribution, Measures of central tendency – mean, mode, median, measures of dispersion, measures of relationship, measures of skewness.			
Domain specific research methods			Hours: 28
SOET: Unit-3: Concepts and axioms of probability; Bayes' Theorem, discrete and normal probability distribution, probability distribution functions and their applications, joint distribution of two or more random variables, correlation coefficient, coefficient of variation,			

Unit 4: Confidence Intervals, hypothesis testing, correlation, coefficient of determination, linear regression, parameter estimation using method of least squares, statistical test of significance, chi-square

Inputs from SOM ,CLL and SOL

Unit: VI Presentations

Tutorial sessions

Those who have used some of the above tools in their work will talk about the work.. Fresh students may present case studies. Case studies will be provided by the teaching or the student will be told how to go about searching for them.

10. Brief Description of Self-learning component by students (through books/resource material etc.):

- Plagiarism, Indexing services, Citation databases Sysstat/ Latex/ Turnitin/mendeley/zotero

11. Books Recommended:


Text Books:

- Larsen, Farber. Elementary Statistics: Picturing the world, 5e, PrenticeHall.
- C.R. Kothari. Research Methodology, New Age International Publishers, 3e, 2012

Reference Books

- Vinay Kumar Srivastava. 2004. (ed) Methodology and Fieldwork, Oxford University Press, New Delhi
- A Papoulis, “ Probability, Random Variables and Stochastic Processes”, McGraw Hill, 3rd Edt.,1991
- Morris and Cohan, Legal Research and Methodology, West Publishing Co. 4. Naval Bajpai. Business Research methods, Pearson Education 1e, 2011

Syllabus for School of Management & Liberal Studies

1. Department:	School of Management & Liberal Studies			 THE NORTHCAP UNIVERSITY <small>Formerly IITM University, Gurugram</small>
2. Course Name: Research Methodology	3. Course Code	4. L-T-P	5. Credits	
	ASL710	3-1-0	4	
6. Type of Course (Check one):	Programme Core <input checked="" type="checkbox"/>	Programme Elective <input type="checkbox"/>	Open Elective <input type="checkbox"/>	
7. Frequency of offering (check one): Odd <input type="checkbox"/> Even <input checked="" type="checkbox"/> Either Sem. <input type="checkbox"/> Every Sem. <input type="checkbox"/>				
Brief Syllabus: Research plan, Research problem, Research Design, Probability, Bayes' Theorem, Special types of random variables, Joint distribution of random variables, Central Limit theorem, Sampling, Frequency Distribution, Measures of central tendency, Measures of dispersion, Measures of relationship, Confidence Intervals, hypothesis testing, correlation and regression, Data Analytics				
8. Total lecture and Practical Hours for this course: 45 hrs-Lecture 15 hrs-Tutorial				
9. Course Outcomes (COs) The objective of this course is to enable the students to: (e). Develop research orientation among the research scholars (f). Comprehend research process to formulate research design (g). Understand research questions and motivate students towards preparing for carrying out independent applied research. (h). Built strong foundation in Statistics				
CO 1	Define research problem, Prepare Research design and conduct literature survey			
CO 2	Understand concepts of probability and probability distributions			
CO 3	Test the hypothesis and check for statistical significance			
CO 4	Understand the basics of data analysis.			
10. UNIT WISE DETAILS No. of Units: - 6				
Unit: I Research Design				Hours: 6
Developing a research plan, Research problem- selection and defining, Literature review, Research gaps, Research Designs- Elements, Need, Features and types, Developing Research Studies, Logical framework, methods to plan resources and validation of results				
Unit: II Descriptive Statistics				Hours: 8
Sampling, sampling distribution, Frequency Distribution, Measures of central tendency – mean, mode, median, measures of dispersion, measures of relationship, measures of skewness. Application of Probability.				
Unit: III Data Collection Methods				Hours: 6
Sources of Data – Primary, Secondary and Tertiary – Types of Data – Categorical, nominal & Ordinal. Methods of Collecting Data: Observation, field investigations, Direct studies – Reports, Records or Experimental observations, Concept of Questionnaire and Schedule, Principles of Designing Questionnaire and Schedule. Limitations of Questionnaire. Reliability Validity of Questionnaire.				

Unit: IV Parametric testing using SPSS	Hours: 8
Data Analysis using statistical package – SPSS software and its applications, Hypothesis – testing – Generalization and Interpretation – Modelling. Chi Square Test, Association of Attributes t Test – ANOVA, Standard deviation Coefficient of variations.	
Unit: V - Non-Parametric testing	Hours: 8
1-sample sign test, 1-sample Wilcoxon signed rank test, Friedman test., Goodman Kruska's Gamma, Kruskal-Wallis test, Mann-Whitney test. Spearman Rank Correlation.	
Unit: VI Data Analysis Techniques	Hours:9
Correlation and Regression Analysis - Simple & Multiple Regression Assumptions of Multiple Regression, Estimating the Regression model, assessing overall model fit, Logit regression Probit regression, , Factor analysis, exploratory factor analysis, Introduction to E-Views software, Introduction to referencing Softwares.	
Tutorial sessions The students will learn to write research papers using Softwares and discuss in class.	
11. Brief Description of Self-learning component by students (through books/resource material etc.):	
<ul style="list-style-type: none"> Plagiarism, Indexing services, Citation databases Systat/ Latex/ Turnitin 	
12. Books Recommended:	
Text Books:	
<ul style="list-style-type: none"> Larsen, Farber. Elementary Statistics: Picturing the world, 5e, PrenticeHall. C.R. Kothari. Research Methodology, New Age International Publishers, 3e, 2012 	
Reference Books	
<ul style="list-style-type: none"> Vinay Kumar Srivastava. 2004. (ed) Methodology and Fieldwork, Oxford University Press, New Delhi A Papoulis, “ Probability, Random Variables and Stochastic Processes”, McGraw Hill, 3rd Edt.,1991 Morris and Cohan, Legal Research and Methodology, West Publishing Co. 4. Naval Bajpai. Business Research methods, Pearson Education 1e, 2011 	

Syllabus for Centre for Language Learning



ASL710

Research Methodology (CLL)

Credits 4(3-1-0)

Research plan, Research problem, Research Design, Literature Review, Relevant terminologies, Tools of research, Publications, Scope and limitation, Qualitative and Quantitative research, Selection of Topic, Paper formatting, Citation and indexing, application of theories, Research plan, Research problem, Drafting abstract, proposal, synopsis, thesis statement, Sampling, sampling distribution, Frequency Distribution, Measures of central tendency – mean, mode, median, measures of dispersion, measures of relationship, measures of skewness. Computer based techniques of research, Format: Citation format for print and non-print sources MLA, Chicago Style Manual, APA Style Format

Text Books:

- Larsen, Farber. Elementary Statistics: Picturing the world, 5e, Prentice Hall.
- C.R. Kothari. Research Methodology, New Age International Publishers, 3e, 2012

Reference Books

- Vinay Kumar Srivastava. 2004. (ed) Methodology and Fieldwork, Oxford University Press, New Delhi
- Morris and Cohan, Legal Research and Methodology, West Publishing Co. 4. Naval Bajpai. Business Research methods, Pearson Education 1e, 2011

Syllabus for Centre for School of Law



Course: Research Methodology (Law)

Course Code: ASL 710

Credits: 4 (3-1-0)

Unit 1: Introduction to Research

What is Research?

Meaning and Scope of research

Status of research in India

Global trends in research.

What is Legal research?

What is socio-legal research?

Importance, Nature and Scope of Legal Research

Research Methods vs. Research Methodology

Types of Research:

Doctrinal, Non-Doctrinal (Empirical)

Interdisciplinary research

Descriptive vs. Analytical

Applied vs. Fundamental

Qualitative vs. Quantitative

Conceptual vs. Empirical

Unit 2: Research Methods

Various Stages in research process

Identification and formulation of research problem

Formulating a hypothesis

Tools and techniques for data collection

Primary and secondary resources

Literature review

Observation method

Questionnaire

Interview

Case study

Sampling

Jurimetrics

Unit 3: Analysis and Interpretation of Data

Use of Deductive and Inductive Methods of research

Preparation of Research Report and Writing of Research Report

Budgeting of research

Ethical and Legal Issues – Plagiarism and Copyright violation

Unit 4: Legal Writing

What is a good legal writing?

Essentials of good legal writing

Sources of authority (footnotes)

Chymes – informative, persuasive, etc.; Writing for academic and different purposes.

Citation, referencing and footnoting

Editing and proofreading

Writing of the research proposal

Dissertation/ thesis writing

Text Books:

Frederic Charles Hicks, Materials and Methods in Legal Research (Lawyers Cooperative Publishing, New York)

S K Verma and Afzal Wani, Legal Research and Methodology, ILI, New Delhi, Selltitz, Jahoda *et al.*, *Research Methods in Social Relations* (Holt, Rinehart and Winston, New York, 1964)

Vijay K Gupta, Decisionmaking in the Supreme Court of India (A Jurimetric Study) — Alternatives in Judicial Research (Delhi: Kaveri Books), 1995

Reference Books:

Manoj Kumar Sinha & Deepak Kharb (eds.), Legal Research Methodology (Lexis Nexis, 2017)

Good and Hall, Methods in Social Research, Singapore McGrawHill Book Co. (1985)