



University of Engineering & Management, Jaipur

Syllabus of Course Work for PhD Programme



Subjects for Course Work : PhD. Programme

SL. NO.	COURSE CODE	SUBJECT	CREDITS	MIN. QUALIFYING MARKS	MAX. MARKS
1	RM101 [*]	Research Methodology	4	55	100
2	RPE102 [*]	Research and Publication Ethics	2	55	100
3	----- ^{**}	subject-specific paper	4	55	100
4	MOOC101 ^{**}	Massive online open course (MOOCs)- (Credits are based on the number of lecture week)		55	100
		No. of Lecture Weeks	4 weeks course		
			6 weeks course		
			8 weeks course		
5	RMS191 ^{**}	Seminar on Review of Literature	2	--	--

* Mandatory Courses as per UGC (To earn 6 credits mandatory)

** The rest of 6-10 credits can be earned from any of these

A compulsory Course Work of minimum one-semester duration as a pre- requisite for the confirmation of registration of students admitted provisionally is necessary. The minimum number of total credits to be earned is 12 (Maximum up to 16).



SYLLABUS for PhD Programme

Subject Name: Research Methodology

Subject Code: RM101

Course Outcome:

- i. To familiarise the research scholar with the fundamentals of scientific research.
- ii. To gain familiarity about various data collection tools and techniques, data analysis and interpretation along with the application of computer and statistical software in research.

Course Contents:

Introduction to Research Methodology: Meaning of Research, Objectives of Research, Motivations in Research, Types of Research, Research Approaches, Significance of Research, Research Methods v/s Methodology, Research and Scientific Methods, Research Process, Criteria of Good Research

Defining the Research Problem: What is Research Problem? Selecting the Problem, Necessity of and Techniques in defining the problem

Sample Design: Implication, Steps. Criteria for selecting a sample procedure, Characteristics of Good sampling Procedure, Types of Sample Design, Selecting Random Samples, Complex random sampling Design

Methods of Data Collection: Collection of Primary Data, Observation Method, Interview method, Collection of Data through questionnaire and Schedules, Other methods. Collection of Secondary Data, Selection of an appropriate method for data collection, Case Study Method, Guidelines for developing a questionnaire, successful interviewing. Survey v/s experiment

Processing and Analysis of Data: Measures of Central Tendency, Dispersion, correlation and Regression, Chi-square test: Applications, Steps, characteristics, limitations, Analysis of Variance and Co-variance

Testing of Hypothesis: Meaning, Basic concepts, a Flow diagram, Power of a hypothesis test, Important parametric tests, Hypothesis Testing of Means, hypothesis testing of Correlation coefficients, Limitations of Tests of the hypothesis.



Subject Name: Research and Publication Ethics

Subject Code: RPE102

Course Outcome:

This course has total 6 units focusing on basics of philosophy of science and ethics, research integrity, publication ethics. Hands-on-sessions are designed 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:

- 1. Pedagogy:** Class room teaching, guest lectures, group discussions, and practical sessions.
- 2. Evaluation:** Continuous assessment will be done through tutorials, assignments, quizzes, and group discussions. Weightage will be given for active participation. Final written examination will be conducted at the end of the course.
- 3. Course structure:** The course comprises of six modules listed in table below. Each module has 4-5 units.

MODULES	UNIT TITLE	TEACHING HOURS
Theory		
RPE 01	Philosophy and Ethics	4
RPE 02	Scientific Conduct	4
RPE 03	Publication Ethics	7
Practice		
RPE 04	Open Access Publishing	4
RPE 05	Publication Misconduct	4
RPE 06	Databases and Research Metrics	7
	Total	30

SYLLABUS IN DETAIL

THEORY:

- **PHILOSOPHY AND ETHICS (3 hrs.)**
 1. Introduction to philosophy: definition, nature and scope, concept, branches
 2. Ethics: definition, moral philosophy, nature of moral judgments and reactions
- **SCIENTIFIC CONDUCT (5 hrs.)**
 1. Ethics with respect to science and research
 2. Intellectual honesty and research integrity
 3. Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP)
 4. Redundant publications: duplicate and overlapping publications, salami slicing



5. Selective reporting and misrepresentation of data

- PUBLICATION ETHICS (7 hrs.)
 1. Publication ethics: definition, introduction and importance
 2. Best practices / standards setting initiatives and guidelines: COPE, WAME, etc.
 3. Conflicts of interest
 4. Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types
 5. Violation of publication ethics, authorship and contributorship
 6. Identification of publication misconduct, complaints and appeals
 7. Predatory publishers and journals

PRACTICE:

- OPEN ACCESS PUBLISHING (4 hrs.)
 1. Open access publications and initiatives
 2. SHERPA/RoMEO online resource to check publisher copyright & self-archiving policies
 3. Software tool to identify predatory publications developed by SPPU
 4. Journal finder/journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggested, etc.
- PUBLICATION MISCONDUCT (4hrs.)
 - (A) Group Discussions (2 hrs.)
 1. Subject specific ethical issues, FFP, authorship
 2. Conflicts of interest
 3. Complaints and appeals: examples and fraud from India and abroad
 - (B) Software tools (2 hrs.) :Use of plagiarism software like Turnitin, Urkund and other open source software tools
- DATABASES AND RESEARCH METRICS (7hrs.)
 - (A) Databases (4 hrs.)
 1. Indexing databases
 2. Citation databases: Web of Science, Scopus, etc.
 - (B) Research Metrics (3 hrs.)
 1. Impact Factor of journal as per Journal Citation Report, SNIP, SIR, IPP, Cite Score 2. Metrics: h-index, g index, i10 index, altmetrics



Subject Name: Seminar on Review of Literature

Subject Code: RMS191

Course Outcome:

The main objective of this course is to undertake a thorough review of available literature on the topic selected by the research scholar

COURSE CONTENTS:

The research scholar will review the important studies conducted at the national and international level either by individuals or organizations including government agencies and present the methodology adopted and important findings emerged from these studies. Based on this review of literature the researcher will identify the research gaps existing in the available literature and thus justifying the need for the present study.

Minimum Number of research papers needs to be reviewed- 100

Maximum Number of research papers needs to be reviewed- 150-200