

RESEARCH METHODOLOGY - COMMERCE AND MANAGEMENT

Programme(s) in which it is offered: Research-Course Work

Course Category: Core	Schedule of Offering: Odd
Course Credit Structure: 4	Course Code: RMCM1701
Total Number of Hours: 60	Contact Hours Per Week: 4
Lecture: 3	Tutorial: 1
Practical: 0	Medium of Instruction: English
Date of Revision: 00-00-0000	Skill Focus: <Research >
Short Name of the Course: RM	Course Stream (Only for Course Work):
Grading Method: Regular	Repeatable: Non-Repeatable
Course Level: Advanced	

Course Description

This course provides a comprehensive overview of the research process, from conceptualization to critical appraisal. It covers research methodologies, sampling techniques, data collection, processing, statistical analysis, report writing, and ethical considerations. The course includes hands-on workshops on statistical tools, report structuring with LaTeX and MATLAB, and critical appraisal of published research.

Course Objective

- To Develop an understanding of the research process, including its purpose, types, and steps.
- To Equip students with knowledge of various sampling techniques and the ability to select an appropriate sample design.
- To Familiarize students with methods of data collection, processing, and statistical analysis using tools like SPSS and AMOS.
- To enhance report writing skills, including structuring, citation styles, and the use of LaTeX and MATLAB, while fostering critical appraisal skills for evaluating published research and addressing ethical considerations
- To equip students with a solid understanding of research methodology and statistical tools, including proficiency in SPSS and AMOS for data analysis. Students will develop practical skills in conducting various statistical tests and interpreting results for effective decision-making.

Course Outcome

- Scholars will demonstrate a comprehensive understanding of research, from problem identification to literature review and emerging trends.
- Scholars can gain proficiency in selecting and implementing various sampling techniques, distinguishing between random and non-random samples, and understanding sample errors.
- Scholars can acquire hands-on experience in collecting and processing data using methods like observation, interviews, questionnaires, and statistical tools like SPSS and AMOS.
- Students will develop skills in drafting research reports, using citation styles, LaTeX, and MATLAB, while also critically appraising published research and

addressing ethical, copyright, and intellectual property issues in teamwork settings.

- Researchers will gain proficiency in conducting various statistical analyses using SPSS, including descriptive statistics, correlation, regression, T-tests, ANOVA, factor analysis, cluster analysis, and structural equation modelling (SEM) with AMOS, while interpreting results and applying statistical concepts like validity and model fit for informed decision-making.

PO-CO Mapping

<This should explain how the Course Outcomes (CO) are mapped with the Programme Outcomes (PO). All programmes to have two generic POs which can map to all minors/proficiency courses and foundation/self-immersion courses. Please tick the respective cells only; leave the other cells blank.>

PO-CO Mapping Matrix

CO/PLO Mapping	PLO 1	PL O 2	PLO 3	PL O 4	PL O 5	PL O 6	PL O 7	PL O 8	PL O 9	PL O 10	PL O 11	PL O 12	PLO 13	PL O 14	PLO 15	PLO 16
CO1						✓										
CO2	✓				✓											
CO3	✓					✓				✓						
CO4	✓	✓	✓		✓	✓										
CO5				✓			✓	✓		✓		✓		✓		

Prerequisites and other constraints

Basic knowledge in research

Pedagogy

The teaching methodology of this course will mainly be lecture-oriented, hands-on training, discussion, presentation, and practical application.

Evaluation Pattern

Evaluation Matrix

	Component Type	Weightage Percentage	Total Marks	Tentative Dates	Course Outcome Mapping
Continuous Internal Assessment (CIA) Components*	MSE	20%	10		
	Assignment	40%	20		
	Presentations/ Quizzes	40%	20		
	CIA Marks	100%	50		
ESE		50%	50		

* The assignments involved in CIA will be subject to plagiarism checks. A submission with unexplained similarities exceeding 10% for PhD courses will be reverted for resubmission. The final submission is subject to score penalization as defined by the course instructor at the start of the course, with a clear communication of the same to all the registered candidates.

Module Sessions

Module I

Research: Meaning, purpose, types of research, steps in research, identification, selection and formulation of research problem, research questions, research design, sample design, types of sampling design, review of literature, internet as a source in identifying gap areas from literature reviews and emerging trends.

Module II

Sampling techniques: Importance of sampling techniques, random and non-random samples, sample frame, sample size, sample design, methods of sampling, simple random sampling, stratified sampling, multi-phase sampling, cluster, multistage sampling, systematic sampling, convenience sampling, quota sampling, sequential sampling, snowball sampling, sampling, and non-sampling errors. **(Seminar on selection and formulation of research problem and preparation of research design and sample design.)**

Module III

Collection and Processing of data: Methods and techniques of data collection, types of data, empirical methods used for collecting data: observation method, Interview method, questionnaire method and schedule method. Processing of data - editing, coding, categorization, classification, and tabulation of data. Data analysis and Interpretation - quantitative and qualitative analysis. Statistical tables, diagrams and graphs, measures of averages, measures of dispersion, correlation analysis and regression analysis and other various research tools. Familiarization of spreadsheet tools, presentation tools and writing tools, structuring the report, pagination, identification, presenting footnotes, abbreviations, presentation of tables and figures- referencing – uses and format of bibliography, appendices, indexing, Testing of Hypothesis. **(Hands on Workshop using statistical tools like SPSS and AMOS in Module 5)**

Module IV

Research Report Writing: Relevance, types of reports, steps in drafting reports, presentation of report, editing and evaluating the final draft. Citation, MLA style, APA style, Chicago style, plagiarism, developing a proposal and working in a research team. **(Workshop on effective way of structuring research thesis using LATEX and MAT Lab)**
Critical Appraisal of Published Research: Guidelines for appraisal. Ethical issues, copyright, Royalty, Intellectual Property Rights and Patent Law, Reproduction of Published Material, Citation and Acknowledgement.

Module V

Analysis and Interpretation of Data: Statistical Tools for Data Analysis - Descriptive Analysis - Inferential Statistics - Advanced Techniques - Structural Equation Modelling (SEM) Using AMOS

References:

1. C.R.Kothari, "Research Methodology – Methods and Techniques", New Age International Publishers, 2004.
2. Jacques Barzun and Henry F Graff, "The Modern Researcher", Sixth Edition, Wadsworth Inc Fulfillment., 2003.
3. Carlo Lastrucci, "The Scientific Approach: Basic Principles of the Scientific Method", Cambridge, Mass. Schenkman, 1967.
4. Deepak Chawla and Neena Sondhi, "Research Methodology – Concepts and Cases", Vikas Publishing House Pvt. Ltd.
5. Uma Sekharan. Roger Bougie, "Research Methods for Business- A Skill building Approach", Wiley.

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6. Mark N.K. Saunders, Philip Lewis and Adrain Thornhill, "Research Methods for Business Students"- Pearson (Latest Edition)
7. Andy Field, "Discovering Statistics Using IBM SPSS Statistics"-SAGE Publication (Latest Edition)
8. Richard A. Johnson, Dean W. Wichern, "Applied Multivariate Statistical Analysis"- Pearson (Latest Edition)
9. Georgy R. Hancock, Ralph O. Mueller, "Structural Equation Modelling"-Information Age Publishing (Latest Edition)
10. David S. Moore, George P. McCabe, Bruce A. Craig, "Introduction to the Practices of Statistics"-W.H. Freeman (Latest Edition)