



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Master of Business Administration

Level: PG

Branch: International Business

Course / Subject Code: MB02093021

Course / Subject Name : Research Methodology & Applied Statistics

W. e. f. Academic Year	2025-26
Semester	2
Category of the Course:	Core Course (CC)

Prerequisite:	No prerequisite
Rationale:	The Research Methodology and Applied Statistics course is designed to develop analytical, logical, and evidence-based decision-making capabilities among MBA (IB) students. It provides systematic knowledge of research design, data collection methods, sampling techniques, and statistical tools required for business analysis. The subject enables students to interpret quantitative and qualitative data, test hypotheses, and draw meaningful managerial insights. By integrating research methodology with applied statistics, the course strengthens problem-solving skills, enhances research competence for academic and corporate studies, and supports informed decision-making in dynamic and uncertain business environments.

Course Outcome:

No.	Course Outcome	RBT Level
1	To develop understanding of fundamental concepts of Research Methodology	Understand
2	To apply systematic process for Scaling, Data Collection and Sampling Design for Social Science research	Apply
3	To statistically analyze collected data with the help of various methods of hypothesis testing	Analyze
4	To evaluate components of ideal Research Proposal and Report writing	Evaluate

Teaching and Examination Scheme:

(in Total Hours (TH) per semester)					Total Credits =TH/30	Assessment Pattern & marks					Total Marks
L	T	PR	PBL*	TH		C	Theory		Tutorial / Practical		
					ESE (E)		PA (M)	PA (I)	PBL (I)	ESE (V)	
45	0	30	45	120	4	70	30	20	30	0	150

* Problem Based Learning (PBL) aims to accommodate learning beyond syllabus as per clause 9.4 of NBA manual.



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Course Content:

Unit No.	Content	No. of Hours	Marks
1	Fundamentals of Business Research: Defining Business Research, Concept of Basic and Applied Research, Steps of Decision Making, Steps of Business Research Review of Literature: Meaning and Need of Review of Literature, Importance and Steps of Review of Literature, Methods and source of Literature Review, Advanced tools of RoL.	8	14
2	Business Research Process: Research Design (Exploratory, Descriptive, Causal), Types of Scales (Single item scale, Multiple item scale and continuous rating scale), Criteria for Good Measurement through Validity & Reliability, factors in selecting an appropriate measurement scale Data Collection Methods: Types of data collection methods (Primary and Secondary), Sources, Survey and Observation, Questionnaire Designing Sampling Designs: Meaning and Methods of Random and Non-Random sampling	15	21
3	Statistically Testing of Hypothesis: Meaning of Hypothesis, Types of Hypothesis, Types of tests, Procedure and Types of Error. Univariate Data Analysis: Parametric – T test Non-parametric – Runs test Bivariate Data Analysis Parametric - T-test (independent & paired) Non-parametric – Mann-Whitney U test Multivariate Data Analysis: Parametric – One Way ANOVA Non-parametric – Kruskal Wallis.	15	21
4	Hypothesis Testing for Categorical Data: Chi-Square test for univariate and bivariate data	7	14



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	<p>Research Ethics: Meaning and scope of ethics in research, Importance of ethical conduct in management research, Fabrication, falsification, and plagiarism (FFP), References and Bibliography</p> <p>Research Proposal and Report Writing: Components of ideal Research Proposal, Components and format of formal Research Report Writing</p>		
5	Practical: The students will be given the practical task as per the generic activities of Problem Based Learning (PBL) for the experiential learning of this subject. The list of activities are included in PBL at the end of document.	30+45	PA(I) + PBL* (I) assessment (50)
Total		120	150

*as per the List of Generic Activities suggested for Problem Based Learning (PBL).

Suggested Specification Table For Question Paper Design:

Distribution of Theory Marks (in %)					
R Level	U Level	A Level	N Level	E Level	C Level
0	20	30	30	20	0

*RM: Remember, UN: Understand, AP: Apply, AN: Analyze, EL: Evaluate, CR: Create (as per revised Blooms Taxonomy)

Suggested Learning Resources:

S. No.	Title of Book	Author	Publication House
1	Business Research Methods	Naval Bajpai	Pearson
2	Research methods for business: A skill building approach	Uma Sekaran	Wiley India, Latest
3	Marketing Research: An Applied Orientation	Naresh Malhotra & Satyabhusan Das	Pearson
4	Business Research Methods	Donald R Cooper and Pamela S Schindler	Tata McGraw Hill Publishing Co. Ltd.
5	Research Methodology	D K Bhattacharyya	Excel Books
6	Business Research Methods	Bryman Alan	Oxford University Press
7	Business Research Methods	Panneerselvam R	John Wiley and Sons
8	Business Research Methodology	J K Sachdeva	Himalaya Publication



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List of Journals / Periodicals / Magazines / Newspapers / Web resources, etc.

1. The Chartered Accountant
2. The Chartered Secretary
3. Indian Journal of Accounting
4. Indian Journal of Finance
5. Indian Journal of Management - Prabandhan
6. Business India / Business Today / Business World
7. Business Standard/Economic Times/Financial Times/ Financial Express

CO-PO Mapping

Semester-2	Research Methodology & Applied Statistics				
	POs				
Course Outcomes	PO1	PO2	PO3	PO4	PO5
CO1	1	2	1	1	0
CO2	2	1	2	1	1
CO3	3	1	0	2	1
CO4	2	2	2	1	1

Legend: '3' for high, '2' for medium, '1' for low and '-' for no correlation of each CO with PO.

List of Generic Activities suggested for Problem Based Learning (PBL)

Sr. No.	Activity	Description	Outcome	Suggested Hours
1	Industry Visit	The students will be taken to industrial visit.	Practical experience to students that how the operations of business are carried out.	10 hours
2	Case Study Discussion	The case study in the area of topic will be discussed with the students.	The students will be able to identify the situation and apply management theories to resolve the problem.	5 hours
3	Gamification in the subject	The students will be given the problem and asked to solve the problem by playing a game to learn the concept.	The students will be able to apply the concept and learn by playing the game.	10 hours
4	Data collection Assignment	The students will be given the assignment based on the module of the subject.	The students will be able to learn data collection from industry and submit assignments with practical inputs.	6 hours



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5	Industry Analysis	The students will be allotted industry and asked to carry out the analysis as per the requirements of the subject.	The students will be able to know the application of the concept in the specific industry.	8 hours
6	Simulation	The students will be given the simulation activities as per the requirements of the subject.	The students will learn and develop the experimental attitude that will help them to solve the industry problems.	10 hours
7	Personality Self-Assessment	Understanding personal traits and how they influence work behavior, teamwork, and managerial effectiveness.	Students will develop self-awareness of their personality traits and identify strategies to enhance their professional effectiveness.	3 hours
8	Leadership Style Self-Assessment	Exploring personal leadership tendencies and their impact on team performance and decision-making.	Students will understand their leadership style and plan ways to adapt it for effective team and organizational management.	2-3 hours
9	Cross-Cultural HR Practices Comparison Report	Analyzing how cultural differences (Hofstede dimensions) influence HR practices in India vs. another country.	Students will apply cross-cultural frameworks to analyze and compare HR practices and develop insights for managing diverse workplaces.	6 hours
10	DEI Role-Play	Applying DEI principles to resolve workplace conflicts and promote inclusion.	Students will demonstrate inclusive communication and problem-solving skills while applying DEI principles in simulated workplace scenarios.	5 hours
11	Visit to Company for Practical Exposure	Students will be guided to visit the company and explore the practical operating of the tasks.	Students are required to visit the relevant company for practical exposure of the execution of the management activities.	8-10 hours
12	Visit to Trade Expo	Students will be taken to trade expo held for different products to understand business	Students are advised to visit trade expo and meet manufacturer and service providers to understand	6-8 hours



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		operation and networking.	business operations and expansion.	
13	Industry Defined Problem	The students will be given a minor problem related to industry and they have to prepare a report depicting the probable solution of the problem.	The students will be able to apply management techniques to solve the allotted problem and will provide managerial solution for the same.	10-15 hours
14	Financial Statement Analysis	The students will be provided with the financial data to analyze financial stability of the company.	The students have to extract financial data from the authenticate database and compare the financial performance within the company and with competitors (or industry average) for future growth. The result should be presented with remarks.	12-15 hours
15	Survey / Questionnaire	Data collection through survey or Questionnaire	The students will be given topics for survey or questionnaire based research. They have to present the findings in the scientific manner and present the same for decision-making.	25-30 hours