



# GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Master of Business Administration

Level: PG

Course / Subject Code: MB04092081

Course / Subject Name : Human Resource Analytics

w. e. f. Academic Year:	2025-26
Semester:	4
Category of the Course:	Interdisciplinary Elective (Minor 2)

<b>Prerequisite:</b>	Principles of Management, Understanding of HRM, Strategic Management and Organization Behaviour
<b>Rationale:</b>	<p>In today's IT dependent world HR analytics plays a crucial role in:</p> <ol style="list-style-type: none"><li>1. Enhancing Talent Acquisition–Identifies hiring patterns and improves recruitment efficiency.</li><li>2. Improving Employee Engagement–Analyzes engagement drivers and enhances employee satisfaction.</li><li>3. Reducing Attrition–Predicts turnover risks and helps in retaining top talent.</li><li>4. Optimizing Workforce Productivity–Identifies performance bottlenecks and suggests improvements. And</li><li>5. Driving Diversity and Inclusion–Helps monitor and improve workplace diversity metrics. Thus HR analytics add strategic edge to the HR manager in its decision.</li></ol>

## Course Outcome:

After Completion of the Course, Student will able to:

No	Course Outcomes	RBT Level
01	Define key concepts related to Human Resource Analytics	Remember
02	Explain the theoretical foundations of HR Metrics, HR Analytics, KPI, HR Metrics, Excel, and Tableau	Understand
03	Use HR analytics to evaluate the effectiveness of recruitment & Selection, training, performance management, and Career Planning functions within an organisation.	Apply
04	Analyse design and application issues of different HRM activities and it's effectiveness for fulfilling organizational need	Analyse
05	Evaluate HR Analytics practices for their effectiveness, fairness, and alignment with organization's HRM strategy.	Evaluate

\*Revised Bloom's Taxonomy (RBT)



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### Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits L+T+ (PR/2)	Assessment Pattern and Marks				Total Marks
L	T	PR	C	Theory		Tutorial / Practical		
				ESE (E)	PA / CA (M)	PA/CA (I)	ESE (V)	
3	1	0	4	70	30	50	0	150

### Course Content:

Unit No.	Content	No. of Hours	% of Weightage
1.	<p><b>Introduction To HR Analytics;</b></p> <p>Understanding Employee Life Cycle in an organization            Understanding Sub functions of HRM            Application of Artificial Intelligence (AI) &amp; Machine Learning (ML) in HRM            Introduction to Machine learning techniques            Basic Statistical tools &amp; its Applications            Human Capital Analytics Continuum            Identifying Cause-and-Effect variables (Independent and Dependent Variables)            Understanding Measurement Scales &amp; its Implications            Applying appropriate technique based on nature of problems and variables.            Select Case studies showcasing successful application of HR Analytics.</p>	12	25
2.	<p><b>HR Planning, Sourcing &amp; Talent Acquisition, performance Analysis;</b></p> <p><b>Introduction to HR Planning &amp; Sourcing</b></p> <p>Identifying Demand and Supply gaps, Predicting Future Demands for Work force, Sourcing Optimization for hiring, HR Planning Techniques (Scatter plots, Trend Analysis, Ratio Analysis. Transition Matrix, etc),</p>	12	25



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	<p>Developing various HR metrics for measuring Sourcing Efficiency &amp; Effectiveness.</p> <p><b>Introduction to Talent Acquisition</b>, Understanding Factors responsible for Hiring Talent, Acquisition Efficiency (time, volume &amp; resources) and Effectiveness (Quality of hire) Assessment, Return on Investment Analysis for New Talent Developing Metrics based on Gamification &amp; Predicting the Renege Rates.</p> <p><b>Introduction to Talent Engagement</b>, Understanding Factors for Employee Engagement, Measuring Impact of Engagement Initiatives on Performance Performance &amp; Potential Assessment using Predictive Analytics, Predicting Promotion Likelihood using Predictive Analytics Identifying High-performance Individuals and Teams Analysing Employee Emotions &amp; Mood using Chatbots through Text analytics</p>		
3.	<p><b>Talent Development, Retention and Compensation Analytics:</b></p> <p><b>Introduction to Talent Development Practices</b>            Training Need Analysis using Descriptive Analytics, Measuring Training Effectiveness using Pre-post Analysis in Performance, Assessing Key Talents using Cluster Analysis, Measuring Renege Rate Attrition Analysis, Predicting Stay Likelihood using Predictive Analytics, Identifying Significant Factors for AttritionAssessing Exit Interviews to understand Employee’s Concern using Text Analytics</p> <p><b>Understanding Most Effective Benefit Schemes</b>, Measuring Employee Satisfaction with Rewards Management, Understanding the Relationship between Performance &amp; Rewards, Impact of Monetary &amp; Non-Monetary Rewards on Performance</p>	11	30
4.	<p><b>HR Metrics and Dash board Using Excel and Tableau &amp; Ethical Consideration;</b></p> <p>Developing relevant problem statement based on context.            Developing various ratios based on problems identified.            Developing various HR metrics in different functions of HR            Data visualization through dynamic dashboards in Excel and Tableau</p>	10	20



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	Understanding various patterns emerging from Data visualization Effective Story Telling using Data visualization. Developing HR Scorecards.  Understand & Address Ethical Implications while using HR Analytics Tools Data Protection Regulations while using Personal Data of Employees		
5	Field project / assignment; Participants will identify a people management issue which needs to be addressed using the past data, necessary methodology to analyze the support data, interpreting the results and writing the contextual and actionable recommendations for the organization's effective HR Management	15	CEC (30 Marks)
	<b>Total</b>	<b>60</b>	<b>100</b>

## Suggested Specification Table with Marks (Theory):

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

Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)

Suggested Case Study: Appropriate cases from book can be taught in classroom.

## References/Suggested Learning Resources:

### (a) Books:

- 1) Rama Shankar Yadav & Sunil Maheshwari, HR Analytics, Wiley, 2021.
- 2) Data-Driven HR: Create Value with HR Metrics and HR Analytics by Irma Doze, Toin AL, Published by IRTE Intelligence
- 3) Martin Edwards, Kriston Edwards, Predictive HR Analytics: Mastering the HR Metrics by Kogan Page Ltd; 3rd edition (25 June 2024)
- 4) Pratyush Banerjee, Jatin Pandey & Manish Gupta, HR Analytics: Practical Applications of HR Analytics, Sage, 2019.
- 5) Dipak Kumar Bhattacharya, HR Analytics, Sage, 2017.
- 6) Ramesh Soundrarajan & Kuldeep Singh, Winning on HR Analytics, Sage, 2017.



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- 7) Nishant Uppal, Human Resource Analytics, Pearson, 2021.
- 8) Bharti Motwani, HR Analytics: Practical Approach Using Python, Wiley, 2021.
- 9) Michael Walsh, HR Analytics Essential, Vobrant Publishers
- 10) Dipak Kumar Bhattacharya, HR Analytics, Understanding Theory & Application , Willey Publication

## (b) Journals

1. Harvard Business Review
2. Journal of Applied Behavioural Science
3. Human Resource Development Review
4. European Journal of Training and Development information
5. Human Capital
6. International Journal of Human Resource Management

## CO- PO Mapping:

Semester 4	Subject Name: Human Resource Analytics				
	POs				
Course Outcomes	PO1	PO2	PO3	PO4	PO5
CO1	1	1	1	1	1
CO2	2	2	1	2	2
CO3	3	3	2	3	2
CO4	2	3	2	2	2
CO5	3	3	2	3	2

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