



# GUJARAT TECHNOLOGICAL UNIVERSITY

Syllabus for Master of Business Administration, 4<sup>th</sup> Semester

Subject Class: Sectoral Elective

Subject Name: Advanced Data Analytics (ADA)

Subject Code: 4549296

With effective  
from academic  
year 2018-19

## 1. Learning Outcomes:

Learning Outcome Component	Learning Outcome (Student will be able to)
Business Environment and Domain Knowledge (BEDK)	<ul style="list-style-type: none"> <li>• <i>Evaluate</i> the significance of data Analytics in various business domains for sound decision making.</li> </ul>
Critical thinking, Business Analysis, Problem Solving and Innovative Solutions (CBPI)	<ul style="list-style-type: none"> <li>• <i>Develop</i> skills required for the use of HR, Marketing and Financial Analytics in providing modern business solutions.</li> </ul>
Global Exposure and Cross-Cultural Understanding (GECCU)	<ul style="list-style-type: none"> <li>• <i>Synchronize</i> the data and explore the cultural perceptive of sharing knowledge.</li> </ul>
Social Responsiveness and Ethics (SRE)	<ul style="list-style-type: none"> <li>• Manage large volume of data without compromising ethical aspects</li> </ul>
Effective Communication (EC)	<ul style="list-style-type: none"> <li>• <i>Analyse</i> and design multidisciplinary approaches of generating knowledge from data within and outside organizations.</li> </ul>
Leadership and Teamwork (LT)	<ul style="list-style-type: none"> <li>• <i>Enhance</i> teamwork abilities with generating information from all relevant domains.</li> </ul>

## LO – PO Mapping: Correlation Levels:

1 = Slight (Low); 2 = Moderate (Medium); 3 = Substantial (High), “-“= no correlation

Sub. Code: 4549296	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
LO1: <i>Evaluate</i> the significance of data Analytics in various business domains for sound decision making	3	3	3	-	2	-	2	3	3
LO3: <i>Synchronize</i> the data and explore the cultural perceptive of sharing knowledge.	2	2	1	2	2	2	3	3	3
LO4: <i>Manage</i> large volume of data without compromising ethical aspects	3	3	3	3	3	1	3	3	3
LO5: <i>Analyse</i> and design multidisciplinary approaches of generating knowledge from data within and outside organizations	3	3	3	1	1	1	1	3	3
LO6: <i>Enhance</i> teamwork abilities with generating information from all relevant domains.	2	-	-	-	1	3	2	-	1

2. **Course Duration:** The course duration is of **40 sessions of 60 minutes each.**



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### 3. Course Contents:

Module No.	Contents	No. of Sessions	70 Marks (External Evaluation)
I	<b>Introduction</b> <ul style="list-style-type: none"><li>Data Analytics: Definition and Significance</li><li>Application of Analytics in Business Functions</li><li>Big Data Analytics – Overview</li><li>Big Data Life Cycle</li></ul>	10	17
II	<b>Basics of Financial Analytics</b> <ul style="list-style-type: none"><li>Introduction</li><li>Need of Financial Analytics in Business</li><li>Overview of Predictive Sales Analytics, Cash Flow Analytics and Product Profitability Analytics</li><li>Application of Analytics in Financial Process</li></ul>	8	14
III	<b>The Role of Analytics in HRM</b> <ul style="list-style-type: none"><li>Introduction of HR Analytics</li><li>Different Phases of Development of Data-driven HR Decision: Descriptive and Predictive HR Decision Making</li><li>Analytics Vs. Metrics</li><li>Importance of HR Analytics</li><li>Steps to Implement HR Analytics</li></ul> <b>HR Decision Making and HR Analytics</b> <ul style="list-style-type: none"><li>Changing Need for HR Decision-making</li><li>Framework of HR Analytics</li><li>Aligning Human Resources to Business Through HR Analytics</li><li>HRIS for HR Decision-making</li><li>Ethical Issues in HR Analytics</li></ul>	12	21
IV	<b>Marketing Analytics</b> <ul style="list-style-type: none"><li>An Introduction to Marketing Analytics</li><li>Benefits of Marketing Analytics</li><li>Marketing Analytics: Tools</li><li>Segmenting the Market</li><li>Analysing Customer Life Time Value</li><li>Understanding Digital Analytics Concepts</li></ul>	10	18
V	<b>Practical:</b> Group projects on the application of Analytics in selected areas of HR, Marketing and Finance domain	---	(30 marks CEC)

### 4. Pedagogy:

- ICT enabled Classroom teaching
- Case study
- Practical / live assignment
- Interactive class room discussions



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## 5. Evaluation:

Students shall be evaluated on the following components:

<b>A</b>	<b>Internal Evaluation</b>	<b>(Internal Assessment- 50 Marks)</b>
	• Continuous Evaluation Component	30 marks
	• Class Presence & Participation	10 marks
	• Quiz	10 marks
<b>B</b>	<b>Mid-Semester examination</b>	<b>(Internal Assessment-30 Marks)</b>
<b>C</b>	<b>End –Semester Examination</b>	<b>(External Assessment-70 Marks)</b>

## 6. Reference Books:

Sr. No.	Author	Name of the Book	Publisher	Year of Publication
1	Dipak Kumar Bhattacharyya	HR Analytics – Understanding Theories and Applications	Sage Publication	Latest
2	Wayne L. Winston	Marketing Analytics -Data-Driven Techniques with Microsoft Excel	John Wiley & Sons	Latest

Note: Wherever the standard books are not available for the topic appropriate print and online resources, journals and books published by different authors may be prescribed.

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

1. Journal of Marketing Analytics, Springer
2. Financial Analysts Journal, Taylor & Francis
3. [http://www.training.prace-ri.eu/uploads/tx\\_pracetmo/introDataAnalyticsSSDAV15.pdf](http://www.training.prace-ri.eu/uploads/tx_pracetmo/introDataAnalyticsSSDAV15.pdf)
4. <http://cdn2.hubspot.net/hub/53/blog/docs/ebooks/introduction-to-marketing-analytics.pdf>
5. <https://www.nima.today/wp-content/uploads/2018/11/Marketing-Analytics-Mike-Grigsby.pdf>
6. [https://www.jigsawacademy.com/em/Beginners\\_Guide\\_to\\_Analytics.pdf](https://www.jigsawacademy.com/em/Beginners_Guide_to_Analytics.pdf)
7. <https://www.forbes.com/sites/bernardmarr/2016/04/07/6-key-financial-analytics-every-manager-should-know/#3cb1628555de>
8. [file:///G:/Sem%20IV%20IT%20Syllabus%2014.08.2019/Advance%20Data%20Analytics/Marketing%20Analytics/Digital%20Marketing%20Analytics%20\(%20PDFDrive.com%20\).pdf](file:///G:/Sem%20IV%20IT%20Syllabus%2014.08.2019/Advance%20Data%20Analytics/Marketing%20Analytics/Digital%20Marketing%20Analytics%20(%20PDFDrive.com%20).pdf)
9. [https://www.ey.com/Publication/vwLUAssets/ey-faas-financial-analytics-slip-sheet-final/\\$File/ey-faas-financial-analytics-slip-sheet-final.pdf](https://www.ey.com/Publication/vwLUAssets/ey-faas-financial-analytics-slip-sheet-final/$File/ey-faas-financial-analytics-slip-sheet-final.pdf)