



Business Analytics & Data Mining Modeling Using R Management

Instructor Name: Dr. Gaurav Dixit

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Department: Management

About Instructor: Dr. Gaurav Dixit is an Assistant Professor in the Department of Management Studies at the Indian Institute of Technology Roorkee. He earned his doctoral degree from the Indian Institute of Management Indore and an engineering degree from Indian Institute of Technology (BHU) Varanasi. Previously, he worked in Hewlett-Packard (HP) as software engineer, and Sharda Group of Institutions as project manager on deputation. Gaurav's research focuses on information technology (IT) strategy for business, society, and governance, electronic commerce, enterprise software, data mining & big data analytics and provides insights on business value of information technology. His research has appeared in quality journals & conferences, including Journal of Global Information Technology Management, Journal of Information Technology Management, India Finance Conference, Indian Academy of Management, and Academy of Management.

Pre Requisites: : Basic Statistics Knowledge

Core/Elective: : Elective

UG/PG: : Both

Industry Support : Big Data companies, Analytics & Consultancy companies, Companies with Analytics Division

Course Intro: : Objective of this course is to impart knowledge on use of data mining techniques for deriving business intelligence to achieve organizational goals. Use of R (statistical computing software) to build, assess, and compare models based on real datasets and cases with an easy-to-follow learning curve.

COURSE PLAN

SL.NO	Week	Module Name
1	1	General Overview of Data Mining and its Components Introduction and Data Mining Process Introduction to R Basic Statistical Techniques
2	2	Data Preparation and Exploration Visualization Techniques
3	3	Data Preparation and Exploration Visualization Techniques Dimension Reduction Techniques Principal Component Analysis
4	4	Performance Metrics and Assessment Performance Metrics for Prediction and Classification
5	5	Supervised Learning Methods Multiple Linear Regression
6	6	Supervised Learning Methods Multiple Linear Regression
7	7	Supervised Learning Methods Naïve Bayes



8	8	Supervised Learning Methods Classification & Regression Trees
9	9	Supervised Learning Methods Classification & Regression Trees
10	10	Supervised Learning Methods Logistic Regression
11	11	Supervised Learning Methods Logistic Regression Artificial Neural Networks
12	12	Supervised Learning Methods and Wrap Up Artificial Neural Networks Discriminant Analysis Conclusion