BUSINESS ANALYTICS AND DATA MINING
MODELING USING R

PROF. GAURAV DIXIT
Department of Management Studies
IIT Roorkee

TYPE OF COURSE : Rerun | Elective | UG/PG
COURSE DURATION : 12 weeks (18 Jan’ 21 - 09 Apr’ 21)
EXAM DATE : 25 Apr 2021

PRE-REQUISITES : Basic Statistics Knowledge

INDUSTRIES APPLICABLE TO : Big Data companies, Analytics & Consultancy companies, Companies with Analytics Division

COURSE OUTLINE :
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.

ABOUT INSTRUCTOR :
Prof. 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, electronic commerce, electronic waste, data mining, and big data analytics and provides insights on business and social value of IT.

COURSE PLAN :
Week 1: General Overview of Data Mining and its Components Introduction
Week 2: Data Preparation and Exploration Visualization Techniques
Week 3: Data Preparation and Exploration Visualization Techniques Dimension Reduction Techniques Principal Component Analysis
Week 4: Performance Metrics and Assessment Performance Metrics for Prediction and Classification
Week 5: Supervised Learning Methods Multiple Linear Regression
Week 6: Supervised Learning Methods Multiple Linear Regression
Week 7: Supervised Learning Methods Naïve Bayes
Week 8: Supervised Learning Methods Classification & Regression Trees
Week 9: Supervised Learning Methods Classification & Regression Trees
Week 10: Supervised Learning Methods Logistic Regression
Week 11: Supervised Learning Methods Logistic Regression Artificial Neural Networks
Week 12: Supervised Learning Methods and Wrap Up Artificial Neural Networks Discriminant Analysis Conclusion