

Business Intelligence and Analytics		
Week 1	Concept Coverage	Duration (approx in Mins)
ACCOUNTING INFORMATION SYSTEMS	AIS, and data models	90
INTRODUCTION TO BUSINESS INTELLIGENCE AND ANALYTICS	1. What's Business Intelligence 2. Data the "new oil"	38
PATTERNS IN DATA	1. Patterns in large data 2. Long tail phenomenon	45
VOCABULARY OF BUSINESS ANALYTICS	1. Drivers of BI and analytics 2. Vocabulary of BI&A 3. Course philosophy and objectives 4. Pedagogy and Textbooks recommendations	36
COURSE OVERVIEW	1. Course objectives 2. Text books and softwares 3. Data sources 4. Introduction to case study: Bizocity scoring at AT&T	26
Week 1	Assignment 1	10 MCQ
Week 2	Concept Coverage	Duration (in Mins)
CASE: Bizocity scoring at AT&T	1. Case Discussion: Bizocity scoring at AT&T	48
BUSINESS INTELLIGENCE ARCHITECTURE	1. Business Intelligence Architecture 2. Data mining 3. Business Analytics	38
DATA MANAGEMENT	1. Data Management 2. Benefits of databbases 3. Database management system	32
ONLINE TRANSACTION PROCESSING	1. Designing databases 2. ER Diagram 3. ACID properties	39
Week 2	Assignment 2	10 MCQ
Week 3	Concept Coverage	Duration (in Mins)
INTRODUCTION TO SQL	1. Data base management system 2. SQL Commands 3. DBMS Keys	31
NORMALISATION	1. Data redundancy 2. 1NF, 2NF, 3NF, BCNF	26

SHOPSENSE CASE IN MySQL Workbench	1. Case: Retail operations at Smartsense 2. Introduction to Mysql Workbench	41
ONLINE ANALYTICAL PROCESSING	1.Data cube 2.Data cube computation 3. fact table 4. star schema 5. snowflake scheme 6. OLAP Architecture	41
Week 3	Assignment 3	10 MCQ
Week 4	Concept Coverage	Duration (in Mins)
DESCRIPTIVE DATA ANALYTICS	1.Survival analysis 2.CLV	32
CHURN ANALYSIS	Customer hazards, Hazard probability, Survival, Hazard calculation, Hazard and survival curves, customer retention	41
CUSTOMER LIFETIME VALUE	ROI on marketing investments, Customer lifetime value/Customer Equity, CLV Modelling	42
NPV - CLV SPREADSHEET ANALYSIS	CLV Modelling	33
Week 4	Assignment 4	10 MCQ
Week 5	Concept Coverage	Duration (in Mins)
ANALYTICS PROCESS	1.Data mining process	32
INTRODUCTON TO STATISTICAL LEARNING AND DATA PRE-PROCESSING	1. Multicollinearity 2. Data preprocessing	31
DATA MINING PROCESS	1. overview of data mining techniques 2. regression analysis 3.Explanatory and predictive modelling	39
OVERVIEW OF DATA MINING TECHNIQUES	1. Bias variance trade off 2. Cross validation and types	35
ANALYTICS PROCESS CASE	ANALYTICS PROCESS CASE	47
Week 5	Assignment 5	10 MCQ
Week 6	Concept Coverage	Duration (in Mins)
INTRODUCTION TO CLASSIFICATION	Classification techniques	31

SCORING MODELS	Evaluating a scoring model Lift Cumulative gains chart Confusion matrix Accuracy rate Error rate Sensitivity Specificity Precision	38
CLASSIFIER PERFORMANCE	Class imbalance problem ROC Curve PR Curve - Precision and recall	49
Week 6	Assignment 6	10 MCQ
Week 7	Concept Coverage	Duration (in Mins)
DECISION TREES	Supervised learning Decision tree induction	36
ATTRIBUTE SELECTION	Attribute selection- Gini index,entropy CART algorithm	33
GROWING A DECISION TREE	Tree pruning Cost complexity pruning Ensemble methods-Bagging, Boosting,Random forest	35
Week 7	Assignment 7	10 MCQ
Week 8	Concept Coverage	Duration (in Mins)
DECISION TREE APPLICATION PART 1	Case:Adventure works targeted mining	28
DECISION TREE APPLICATION PART 2	Case:Adventure works targeted mining	24
Week 8	Assignment 8	10 MCQ
Week 9	Concept Coverage	Duration (in Mins)
CLUSTER ANALYSIS	Steps in cluster analysis	23
CLUSTERING TECHNIQUES Part 1	Proximity matrix euclidean distance agglomerative clustering Divisive clustering	26
CLUSTERING TECHNIQUES Part 2	Clustering algorithms Data matrix Disimmilarity matrix measures of distance	36

K MEANS CLUSTERING	Determining number of clusters,Cluster quality,Segmentation using clustering	32
Week 9	Assignment 9	10 MCQ
Week 10	Concept Coverage	Duration (in Mins)
IMPLEMENTATION IN PYTHON: clustering for segmentation and profiling	Case: Dominick's finer foods	42
RFM ANALYSIS	RFM SIGNIFICANCE RFM AND CLV WEIGHTING AND COMPOSITE SCORING RFM FOR CUSTOMER DONATIONS	38
Week 10	Assignment 10	10 MCQ
Week 11	Concept Coverage	Duration (in Mins)
AI, BLOCKCHAINS AND THE WAY FORWARD		55
Week 11	Assignment 11	10 MCQ