

Program: M.COM (Business Analytics)

				Per	Peri Hr./W	od eek/Sem.	E	valua	tion Sc	heme	Sub. Total	Credit	Total Credits		Attributes						
S. No.	Course code	Course Title	Type of Paper	L	Т	Р	СТ	ТА	Total	ESE				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	Sustainable Development Goal
1	CM531	Introduction to Business Analytics	Core	3	1	0	40	20	60	40	100	3:1:0	4	√	√	√					4.8
1	CINISSI		Cole	5	1	0	-10	20	00	-10	100	5.1.0	-								1, 0
2	CM532	Business Ethics & Corporate Governance	Core	2	1	0	40	20	60	40	100	2:1:0	3	✓	~						4, 8
3	CM533	Machine Learning for Financial Decisions	Core	3	1	0	40	20	60	40	100	3:1:0	4	✓	~	~	~		✓	~	7,8,9,11 ,12, 13
4	CM534	Database Management System	Core	3	1	0	40	20	60	40	100	3:1:0	4	~	~				~	~	4
5	MT553	Discrete Mathematics	Core	3	1	0	40	20	60	40	100	3:1:0	4	✓	~	~					4
6	CM536	Financial Modelling	Core	3	1	0	40	20	60	40	100	3:1:0	4	✓	~	~					4, 8
7	CM537	Internship	Core	0	0	2	0	0	0	0	100	0:0:2	1		~		~				4, 8
Total					6	2	240	120	360	240	700		24								

Semester- III



Effective from Session: 2025-26								
Course Code	CM531	Title of the Course	Introduction to Business Analytics	L	Т	Р	С	
Year	П	Semester	III		1	0	4	
Pre-Requisite None Co-requisite None								
Course Objectives To provide foundational knowledge and skills to analyze data for informed business decision-m methods, data visualization, and analytical tools.						tistical		

	Course Outcomes
CO1	To enable the learners to understand the scope of Business analytics in today's era
CO2	To know the domains of Business Analytics
CO3	Understand the importance of data quality and learn strategies for dealing with missing or incomplete data to ensure accurate and reliable analysis.
CO4	Acquire the skill to Compare and contrast structured, semi-structured, and unstructured data, appreciating the challenges and
	opportunities each type presents in analytics.
CO5	Evaluate the ethical and legal considerations in business analytics, recognizing the importance of responsible data usage
	and privacy protection.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Introduction to Business Analytics	Introduction to Business Analytics – What is Business Analytics, Examples of Applications, Scope of Business Analytics, Data for Business Analytics, Models in Business Analytics, Business Analytics Process, Business Analytics Vs Data Science, Benefits of Business Analytics, Importance of Business Analytics, Skills required for Business Analyst	12	CO1
2	Business Analytics Domains	Domains of Business Analytics - Marketing analytics, Financial Analytics, HR Analytics, Health Care Analytics, Supply Chain Analytics and analytics for government and non-profit organizations, Sports analytics and Web analytics.	12	CO2
3	Data Mining	Data Mining: - meaning, Process, tools - Market Basket Analysis, Association Rules and clustering, Decision trees, Random forests	10	CO3
4	Data handling	12	CO4	
5	Business analytics future trends	Role of Artificial Intelligence in Business, Machine Intelligence, Competitive Intelligence, Text Mining, Web Analytics (Web content mining, Web usage mining, Web structure mining), Role of Intelligent Agents in e-business, e-commerce, m- commerce, Social Networking Analysis, Big Data Tools & Techniques, Content Analytics (Sentimental Analysis & Opinion Analysis). Ethical and Legal considerations in Business Analytics	14	CO5
Referen	ce Books:			
1. Essent	tials of Business Analytic	s: An Introduction to the methodology and its application, Bhimasankaram Pochiraju, Sridhar S	Seshadri, Spr	inger
2. Ben F	ry- Visualizing Data. Rel	eased December 2007. Publisher(s): O'Reilly Media, Inc.		
3. An Int	troduction to Business Ar	nalytics, Ger Koole, Lulu.com, 2019		
4. Essent	tials of business analytics	Cochran, Anderson, Williams and others, Cengage learning publication.		
e-Lear	ning Source:			
NPTL C	ourse : https://onlinecour	ses.nptel.ac.in/noc24_cs65/preview		
UDEMY	t: https://www.udemy.co	m/courses/business/analytics-and-intelligence/?srsltid=AfmBOopXGPzCdWlx6dIwOXCdqaW	r-jv-rAPIVP	8-

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C)I	KSV	SIVH	NI	X X 1	n4 /	1HI

		Course Articulation Matrix: (Mapping of COs with POs and PSOs)									
PO-PSO	DO1	DOJ	DO2	DO4	DO5	DSO1	DSO2	DSO2	DSO4		
СО	FOI	FO2	105	r04	105	1301	F302	1303	1504		
CO1	1	-	2	2	2	2	-	1	1		
CO2	2	1	1	-	2	2	2	-	-		
CO3	1	2	1	1	-	1	1	-	2		
CO4	2	1	-	2	1	1	1	1	1		
CO5	-	-	-	1	-	-	-	2	1		



Effective from Session: 2025	Effective from Session: 2025-26									
Course Code	CM532	Title of the Course	Business Ethics & Corporate Governance	L	Т	Р	С			
Year II Semester		Ш	2	1	0	3				
Pre-Requisite	re-Requisite None Co-requisite None									
Course Objectives	To introduce	To introduce learners to the concepts of Business Ethics and Corporate Social Responsibility, highlighting their								
Course Objectives	relevance and	complexity in both glo	bal and Indian contexts.							

	Course Outcomes
CO1	To enable the students to understand foundational concepts and principles of business ethics
CO2	To develop students' ability to analyze and critically evaluate ethical issues in business.
CO3	To provide students with an in-depth understanding of ethical challenges in finance, accounting, and information technology
CO4	To educate students on the principles of corporate governance, its evolution, and regulatory frameworks
CO5	To familiarize students with the significance and strategies of Corporate Social Responsibility (CSR),

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO		
1	Business Ethics - An Overview	Nature, Need, and Importance of Business Ethics, Ethical Theories: Consequentialism, Non-consequentialism, Utilitarianism, Kantianism, Cognitive and Non-cognitive Ethics, Types of Ethics: Deontological Ethics, Virtue Ethics, and Ethics of Care, Ethical Dilemmas: Prisoner's Dilemma, Ethical Decision-Making Frameworks, Global and Cultural Perspectives on Ethics	9	CO1		
2	Indian Ethical Practices in Business	Ethics in Marketing, Advertising, Human Resources, and Finance, Indian Traditions and Ethical Values in Business, Ethical Issues in Information Technology, Copyrights, and Patents	9	CO2		
3	Ethical Issues in Finance and Information Technology	Financial Statements and Transparency, Ethical Dilemmas in Mergers, Acquisitions, Insider Trading, and Money Laundering, Banking Ombudsman Scheme and Right to Information Act, Information Technology: Ethical Issues in Security, Computer Crime, Software Piracy, Hacking, and Ethical Dilemmas in IT Systems	9	CO3		
4	Corporate Governance	Corporate Governance Corporate Governance: Concept, Importance, Evolution of Corporate Governance, Principles of Corporate Governance, Regulatory Framework of Corporate Governance in India, SEBI Guidelines and Clause 49, Audit Committee, Role of Independent Directors, Protection of Stakeholders, Changing roles of corporate Boards. Elements of Good Corporate Governance, Failure of Corporate Governance and Its Consequences				
5	Corporate Social Responsibility	Definition and Importance of CSR, CSR as a Business Strategy for Sustainable Development, Global and Indian Perspectives on CSR, Corporate Governance and the Companies Act (Amendment) 2013 on CSR	9	CO5		
Referen	ce Books:					
Ferrell, C Learning	O.C., Fraedrich, John, and g.	d Ferrell, Linda. (2021). Business Ethics: Ethical Decision Making & Cases, 9th Edition, Bostor	ı, MA: Cenga	age		
Boatrigh	nt, John R., & Patra, Bibh	u Prasan. (2021). Ethics and Conduct of Business, 7th Edition, Pearson.				
Schwart	z, M. S. (2020). Business	Ethics: An Ethical Decision-Making Approach, Wiley.				
Sekhar,	R.C. (2022). Ethical Cho	ices in Business, Sage Publications.				
e-Lear	ning Source:					
Business	s Ethics - Course					
https://el	pooks.inflibnet.ac.in/hrmp	001/chapter/109/				
https://or	nlinecourses notel ac in/no	oc25 mg12/nreview				

		Course Articulation Matrix: (Mapping of COs with POs and PSOs)									
PO-PSO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO/		
СО	101	102	105	104	105	1301	1302	1303	1504		
CO1	1	-	2	2	2	2	-	1	1		
CO2	2	1	1	-	2	2	2	-	-		
CO3	1	2	1	1	-	1	1	-	2		
CO4	2	1	-	2	1	1	1	1	1		
CO5	-	-	-	1	-	-	-	2	1		
	1. Low Correlation: 2- Moderate Correlation: 3- Substantial Correlation										



Affective from Session: 2025-2026								
Course Code	CM536	Title of the Course	Financial Modelling	L	Т	Р	С	
Year	Π	Semester	Ш	3	1	0	4	
Pre-Requisite	None	Co-requisite	None					
Course Objectives	The course aim to facilitate performance, based on its historical performance.							

	Course Outcomes
CO1	To understand how to built a model that represent a company's financial performance
CO2	To comprehend how to apply data for future prediction.
CO3	To develop understanding of the conceptual frame work of excel models.
CO4	To Determine the intrinsic value of a company or project
CO5	To Predict future financial performance based on historical data and assumptions.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Introduction to Financial Modeling	Overview of financial modelling ; Concept Importance , application and terminology ; Basics of financial market - money market , capital markets , derivative markets , various investment vehicles.	12	CO1
2	Financial Statements analysis	Equity Modeling – Equity Infusion, Modeling the projected P/L and BS, Modeling the projected cash flow statement, Performing ratio Analysis, WACC and cost of equity Analysis.	12	CO2
3	Use of Excel in Financial Modeling	Excel Basics and Shortcuts, Formulas and Functions for Financial Modeling, Data Validation and Formatting, Advanced Excel Features for Modeling	12	CO3
4	Valuation Techniques	Discounted Cash Flow (DCF) Analysis Comparable Company Analysis (CCA), Precedent Transaction Analysis, Net Asset Valuation Methods	12	CO4
5	Budgeting and Forecasting	Meaning, uses and principles financial budgeting; Common budgeting approaches -Incremental, value- based, zero- based; Forecasting techniques – moving average, regression analysis; Tracking budget performance with variance analysis; Applied budgeting tools and techniques.	12	CO5
Refere	nce Books:			
Princip	le of financial modeling	g, model design and best practices using excel and VBA, Michel rees, wiley.		
Financi	al modeling building a	a fully integrated financial model paperback ,Nilesh parawai 2007		
Financi	al modelling by simon	benninga		
e-Lear	rning Source:			
https://v	www.nseindia.com>lea	rn>financial-modelling		

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)										
PO-PSO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO/		
СО	101	102	105	104	105	1501	1502	1505	1504		
CO1	1	-	2	2	2	2	-	1	1		
CO2	2	1	1	-	2	2	2	-	-		
CO3	1	2	1	1	-	1	1	-	2		
CO4	2	1	-	2	1	1	1	1	1		
CO5	-	-	-	1	-	-	-	2	1		

Name & Sign of Program Coordinator	Sign & Seal of HoD



Effective from Session: 2025-26									
Course Code	CM533	Title of the Course	Machine Learning for Financial Decisions	L	Т	P	С		
Year	Π	Semester	Ш	3	1	0	4		
Pre-Requisite	None	Co-requisite							
Course Objectives	To equip stud The course en	lents with the fundamen nables students to apply	tals of Machine Learning and its applications in financial ML techniques for stock prediction, risk management,	decision algorith	n-mak mic tr	ing. ading,			
	and other finance-related use cases.								

	Course Outcomes							
CO1	To enable the students to understand the fundamentals of Machine Learning (ML), apply ML techniques in financial data analysis.							
CO2	To the students apply regression techniques for financial modeling, utilize Support Vector Machines (SVM) with kernel tricks for stock price prediction, and analyze their applications in finance.							
CO3	To enable the students to apply clustering techniques, tackle the curse of dimensionality, and implement dimensionality reduction methods for financial data analysis.							
CO4	To understand deep learning fundamentals and apply LSTMs and Transformers for financial time series prediction, and utilize Reinforcement Learning for portfolio management and algorithmic trading.							
CO5	Students will evaluate HET strategies apply ML for risk management use XAL in finance and develop financial ML projects							

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mappe d CO
1	Introduction to Machine Learning in Finance	Overview of Machine Learning (ML) and its applications in finance; Types of ML – Supervised, Unsupervised, and Reinforcement Learning; Introduction to time series data handling and financial forecasting; Ethical considerations and risks in applying ML to financial systems; Use of platforms such as MS Excel, Orange, Google AutoML, R, and Python for conceptual and practical understanding.	12	CO1
2	Supervised Learning	Introduction to supervised learning and its role in financial analytics; Regression techniques – Linear, LASSO, Ridge, and Elastic Net for modeling and prediction; Support Vector Machines and kernel methods for financial data classification, risk assessment, and investment analysis.	12	CO2
3	Unsupervised Learning	Introduction to unsupervised learning techniques in financial analysis; Clustering methods including K-Means, Expectation-Maximization, and Gaussian Mixtures to group data; Dimensionality reduction using Principal Component Analysis (PCA), Factor Analysis, Probabilistic PCA, and Independent Component Analysis (ICA); Interpretation of results to uncover structure and insights from unlabeled financial data.	12	CO3
4	Deep Learning and Reinforcement	Introduction to deep learning approaches in financial analytics; Neural Networks, Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), Long Short-Term Memory (LSTM) networks, and Transformers for time series modeling and prediction; Reinforcement Learning frameworks for decision-making, portfolio management, and algorithmic trading strategy development.	12	CO4
5	Case Studies in Financial ML	Explores ML in algorithmic and High-Frequency Trading (HFT) strategies, risk management, volatility forecasting, and explainable AI, with hands-on projects on stock forecasting, credit scoring, and portfolio optimization.	12	CO5

Reference Books:

Theobald Oliver, Machine Learning for Absolute Beginners: A Plain English Introduction: 1, (Machine Learning from Scratch), Second Edition, Ebook.

Paul Moon Sub Choi, Machine Learning for Finance: Data Algorithms for the Markets and Deep Learning from the Ground Up, Packt Publishing, 2020.

Marcos López de Prado, Advances in Financial Machine Learning, Wiley, 2018.

Shai Shalev-Shwartz & Shai Ben-David, *Understanding Machine Learning: From Theory to Algorithms*, Cambridge University Press, 2014. Sutton, R. S., & Barto, A. G. (2018). *Reinforcement Learning: An Introduction*. MIT Press.

Tom M. Mitchell, Machine Learning, McGraw Hill Education, 2017

e-Learning Source:

https://www.artsyltech.com/ai-and-machine-learning-improve-financial-decisions

CFA Institute, Artificial Intelligence in Investment Management.

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)										
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4		
CO1	3	2	2	1	2	3	2	1	1		
CO2	3	3	3	1	2	3	2	1	1		
CO3	3	3	3	1	2	3	1	1	1		
CO4	3	3	3	2	2	3	1	2	1		
CO5	3	3	3	2	3	3	2	2	1		

Name & Sign of Program Coordinator	Sign & Seal of HoD



Effective from Session: 2025-26									
Course Code	CM534 Title of the Course Essentials of Data Base Management System		Essentials of Data Base Management System	L	Т	Р	C		
Year	Π	Semester	Ш	3	1	0	4		
Pre-Requisite		Co-requisite							
Course Objectives	To provide st applications i	udents with an in-depth n business analytics and	understanding of database concepts, design, and management data-driven decision making.	it with	a focus	s on			

	Course Outcomes						
CO1	To Understand the basic concepts, architecture, and types of database systems used in business analytics						
CO2	To understand how to Design ER models and normalize relational databases to ensure data integrity and efficiency.						
CO3	To Write and execute Structured Query Language queries and manage transactions with ACID properties.						
CO4	To Apply data warehousing and BI concepts to organize and analyze business data.						
CO5	To Explore modern database technologies, including NoSQL and cloud databases, for business applications.						

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO			
1	Introduction to Database Systems	Fundamentals of database management systems (DBMS); Comparison with traditional file systems; Types of databases – relational and NoSQL; Overview of DBMS architecture and data modeling concepts.	10	CO1			
2	Database Design and ER Modeling	Entity-Relationship (ER) modeling and diagramming; Conversion of ER models into relational schemas; Normalization techniques to enhance data integrity and reduce redundancy.	10	CO2			
3	SQL and Transaction Management	Structured Query Language (SQL) for data definition, manipulation, and control; Advanced querying techniques, indexing, views; Fundamentals of transaction management with emphasis on ACID properties and concurrency control.	15	CO3			
4	Data Warehousing and Business Intelligence	Concepts and architecture of data warehousing and its role in business intelligence; Data warehouse design using star and snowflake schemas; ETL processes; OLAP operations; Introduction to data visualization in business intelligence using varied tools and techniques	13	CO4			
5	Applications of DBMS in Business Analytics	Overview of modern database technologies such as NoSQL and cloud-based solutions; Database security and big data challenges; Business analytics applications of DBMS through various case studies.	12	C05			
Referen	ce Books:						
Elmasri, modelin	R., & Navathe, S. B. <i>Fun</i> g, normalization, and adv	damentals of Database SystemsPearson EducatioN A comprehensive book covering core databa anced topics.	ase concepts.	ER			
Ponniah, P.Data Warehousing Fundamentals for IT Professionals Wiley India Excellent for understanding data warehousing concepts, architecture, and							
BI tools.							
Ramez I intelliger	Elmasri <i>Data Warehousin</i> nce.	g and Data Mining Pearson A practical guide for applying database technologies to analytics an	d business				
e-Lear	ning Source:						

Link: https://nptel.ac.in/courses/106/106/106106093

Link: https://www.coursera.org/learn/sql-data-science

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)									
PO-PSO	PO1	POY	DO3	DO4	DO5	DSO1	DSO2	DSO2	DSO/	
СО	POI	F02	POS	F04	POS	1501	1502	1505	1304	
CO1	3	2	1	1	2	3	3	1	1	
CO2	3	3	2	2	2	3	2	2	1	
CO3	3	3	3	2	2	3	3	2	2	
CO4	2	3	2	3	3	2	3	3	2	
CO5	2	2	3	3	3	2	3	3	3	

Name & Sign of Program Coordinator	Sign & Seal of HoD



Effective	EffectivefromSession:2025-26							
Course Code N		MT553	Title of the Course	Discrete Mathematics	L	Т	Р	C
Year		II Semester III		3	1	0	4	
Pre-Req	uisite	None Co-requisite None						
Course Objections Toequipstudents with fundamental discrete mathematics co			discretemathematicsconceptsandtheirapplicationsindecis	sion-				
making.								
Course	Course Outcomes							
CO1	Tounderstandtheft	undamentalco	nceptsofdiscretemathe	ematicsandtheirapplicationinbusinessandcommerce.				
CO2	O2 Toapplyfunctionsandcountingprinciplesforsolvingbasicproblemsindiscretestructuresanddecision-making.							
CO3	CO3 Tounderstanddifferenttypesofgraphsandtheirimportanceinrepresentingandsolvingreal-worldproblems.							
CO4	CO4 Toapplyprinciplesofinductionandalgorithmanalysisforsolvingmathematicalandcomputationalproblems.							
CO5	Tousebasicconcep	otsofprobabilit	yandcombinatoricsfor	analyzingandsolvingcountinganduncertainty-relatedpro	blems			

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO			
1	Foundations of Discrete Mathematics	Introduction to Discrete Mathematics and its relevance to Commerce, Set Theory: Definitions, types of sets, operations, and applications, Propositional Logic: Statements, truth tables, logical connectives, Predicate Logic: Universal and existential quantifiers, applications.	15	CO1			
2	Functions and Counting Principles	Functions: Types of functions, inverse and composition of functions, Counting Principles: Basic counting, permutations, and combinations, Inclusion- ExclusionPrinciple,Applicationsofcountingtechniquesinbusinessdecision- making.	10	CO2			
3	Graph:Typesand Importance of Graph	Introduction to Graphs: Types of graphs, representation, and properties, Eulerian and Hamiltonian Graphs, Graph algorithms: Dijkstra's algorithm, Prim's algorithm, Kruskal's algorithm, Business applications of graph theory in supply chain and networking.	15	CO3			
4	Induction and Algorithms	The Division Algorithm, Divisibility Properties, Non-decimal Bases, Mathematical Induction, Algorithm Correctness, Growth Functions (Big O), Algorithm Complexity	10	CO4			
5	Probability, Combinatorics	BasicsofProbabilityTheory:Samplespaces,conditionalprobability,Bayes' Theorem, Combinatorics :Generating functions ,recurrencerelations,Graph- based probability models in business decision-making.	10	CO5			
Referen	ce Books:						
Rosen,K	L.H.(2019). Discrete Math	nematics and Its Applications(8thed.).McGraw-HillEducation.					
Kolman,	B.,Busby,R.C.,&Ross,S.C	C.(2017).DiscreteMathematicalStructures(6thed.).Pearson.					
Liu,C.L.	.(2017).Elements of Disc	reteMathematics(4thed.).McGraw-Hill Education.					
Trembla	y,J.P.,&Manohar,R.(201	7).DiscreteMathematicalStructureswith Applications to Computer Science.TataMcGraw-Hill.					
Text Books							
Sarkar, Swapn Kumar, A text Book of Discrete Mathematics (3 rd Adition), S. Chand and Company Limited.							
Schaum's Outline of Discrete Mathematics (4 ^{rth} Edition).							
e-Lear	e-Learning Source:						
https://w	ww.tutorialspoint.com/di	screte mathematics/index.htm					
http://dig	http://digimat.in/nptel/courses/video/106106094/I.01.html						

		Course Articulation Matrix:(Mapping of Cos with POs and PSOs)							
PO-PSO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4
СО	101	102 103	104	105	1501	1502	1505	1504	
CO1	1	1	2	2	2	2		2	2
CO2	1	1	1	-	2	-		1	1
CO3	1	1	2	1	1	-	2	2	2
CO4	1	1	1	-	1	1		1	1
CO5	1	1	1	-	-	-	1	!	2

Name & Sign of Program Coordinator	Sign & Seal of HoD



Effective from Session: 2025-2026							
Course Code	CM536	Title of the Course	Financial Modelling	L	Т	Р	С
Year	Π	Semester	Ш	3	1	0	4
Pre-Requisite	None	Co-requisite	None				
Course Objectives	The course aim to facilitate performance, based on its historical performance.						

	Course Outcomes					
CO1	To understand how to built a model that represent a company's financial performance					
CO2	To comprehend how to apply data for future prediction.					
CO3	To develop understanding of the conceptual frame work of excel models.					
CO4	To Determine the intrinsic value of a company or project					
CO5	To Predict future financial performance based on historical data and assumptions.					

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO		
1	Introduction to Financial Modeling	Overview of financial modelling ; Concept Importance , application and terminology ; Basics of financial market - money market , capital markets , derivative markets , various investment vehicles.	12	CO1		
2	Financial Statements analysis	Equity Modeling – Equity Infusion, Modeling the projected P/L and BS, Modeling the projected cash flow statement, Performing ratio Analysis, WACC and cost of equity Analysis.	12	CO2		
3	Use of Excel in Financial Modeling	Excel Basics and Shortcuts, Formulas and Functions for Financial Modeling, Data Validation and Formatting, Advanced Excel Features for Modeling	12	CO3		
4	Valuation Techniques	Discounted Cash Flow (DCF) Analysis Comparable Company Analysis (CCA), Precedent Transaction Analysis, Net Asset Valuation Methods	12	CO4		
5	Budgeting and Forecasting	Meaning, uses and principles financial budgeting; Common budgeting approaches -Incremental, value- based, zero- based; Forecasting techniques – moving average, regression analysis; Tracking budget performance with variance analysis; Applied budgeting tools and techniques.	12	CO5		
Referen	nce Books:					
Principle of financial modeling, model design and best practices using excel and VBA, Michel rees, wiley.						
Financial modeling building a fully integrated financial model paperback, Nilesh parawai 2007						
Financial modelling by simon benninga						
e-Learning Source:						
https://w	www.nseindia.com>lea	rn>financial-modelling				

		Course Articulation Matrix: (Mapping of COs with POs and PSOs)							
PO-PSO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO/
СО	101	102	105	104	105	1301	1302	1303	1304
CO1	1	-	2	2	2	2	-	1	1
CO2	2	1	1	-	2	2	2	-	-
CO3	1	2	1	1	-	1	1	-	2
CO4	2	1	-	2	1	1	1	1	1
CO5	-	-	-	1	-	-	-	2	1

Name & Sign of Program Coordinator	Sign & Seal of HoD



Effective Session: 2025-26							
Course Code	CM537	Title of the Course	Internship	L	Т	P	С
Year	П	Semester	III	0	0	2	1
Pre-Requisite	None	Co-requisite	None				
Course Objectives	To familiari	To familiarize and acquaint the student with accounting standards and various financial reporting practices.					

Course Outcomes

CO1 Upon finishing the course students will be able to come up with a gain of professional work in industry and research project experience.

Uni t No.	Title of the Unit	Content of Unit
		Students are encouraged to undertake internships in suitable industries, consultancies, non- profit
		organizations, institutions, protected areas, and other relevant sectors to gain first and experience in corporate
		environmental management and real-world office settings. During the internship, each student will work
		independently on a chosen topic, guided by an assigned mentor. The internship will culminate in a detailed
		report that addresses various aspects of corporate culture, focusing on issues encountered within the industry
		context. The project must include a comprehensive review of the existing literature and provide an in-depth
1	Internship	analysis based on the student personal research. are to begin at the start of the semester, and students are
		required to undertake fieldwork for data collection and surveys to support their findings. The completed
		project report must be submitted to the University for appraisal and acceptance. Reports must be typed on A4
		size bond paper with 1.5 line spacing. High-quality illustrations, charts, and photographs are encouraged to
		support the report content. The final document should be free from spelling or grammatical errors. Students are
		required to submit their completed internship report one month prior to the practical examination at examiner
		appointed by the Controller of Examinations, Integral University, conducting the assessment. Additionally,
		students must prepare a PowerPoint presentation to present their findings and key insights from their
		fieldwork. The fieldwork and report will be evaluated solely by the external examiner, with the final
		assessment being conducted at the end of the year.
		Duration: The internship is to be completed after semester 3 and before the commencement of semester 4 of at
		least 60 Hours ; and it is to be assessed and evaluated in semester 4. Internship work Identification: Students
		may choose to undergo an Internship in
		Industry/Govt.OrganizationsNGO/MSME/RuralInternship/Innovation/IPR/Entrepreneurship. Students may
		choose either to work on innovation or entrepreneurial activities resulting in start-ups or undergo internship
		with industry/NGOs/Government organizations/Micro/Small/ Medium enterprises to make themselves ready
		for the industry

Name & Sign of Program Coordinator



Integral University, Lucknow Department of Commerce Study and Evaluation Scheme

	Program	n: M.COM (Business Analytics)																	Seme	ster- IV	
				Hr./	Period Per Hr./Week/Sem		Evaluation Scheme										At	tribute	5		
S. No.	Course code	Course Title	Type of Paper	L	Т	Р	СТ	ТА	Total	ESE	Sub. Total	Credit	Total Credits	Employability	Entrepreneursh ip	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	Sustainable Development Goal
1	CM538	Introduction to Financial Analytics	Core	3	1	0	40	20	60	40	100	3:1:0	4	~	~	~				✓	3,4,8,11
2	CM539	Data Visualisation and Communication	Core	3	1	0	40	20	60	40	100	3:1:0	4	~		~				√	4, 9
3	CM540	Fundamentals of Data Science	Core	3	1	0	40	20	60	40	100	3:1:0	4	~	~	~		~	~	✓	4, 9
4.	CM541	Artificial Intelligence in Business	Core	3	1	0	40	20	60	40	100	3:1:0	4	~	~	~				\checkmark	3,4,8,11
		Γ	1	E	LEC	T AN	Y TW	O PAPI	ERS IN	ANY C	FTHE	TWO GI	ROUPS	1	1	1	1				1
5	CM542	Fund Management in Commercial Banks	Elective	3	1	0	40	20	60	40	100	3:1:0	4	~	~	~					4
6	CM543	Investment Valuation & Analysis	I	3	1	0	40	20	60	40	100	3:1:0	4	~	~	~	~			\checkmark	4, 5, 9
7	CM544	Financial Accounting & Reporting		3	1	0	40	20	60	40	100	3:1:0	4	✓		~				\checkmark	4,9
8	MT554	Predictive Analytics	- Flootivo	3	1	0	40	20	60	40	100	3:1:0	4	~		~				✓	4, 9
9	CM546	Supply Chain Design and Management	GROUP II	3	1	0	40	20	60	40	100	3:1:0	4	~	~	~		~			4, 8
10	CM547	HR Analytics	1	3	1	0	40	20	60	40	100	3:1:0	4	~	~	~		~			4, 8
11	CM 548	Dissertation Project	Core	0	0	4	-	-	-	-	100	0:0:2	2	✓	✓	✓				✓	4,8,9
12	CM 549	Comprehensive Viva-Voce	Core	0	0	0	-	-	-	-	100	-	0	~		✓	✓			✓	4, 8
	Total				6	4	240	120	360	240	700		26								



Effective from Session: 2025-26									
Course Code	CM538	Title of the Course	Introduction to Financial Analytics	L	Т	Р	С		
Year	Π	Semester	IV	3	1	0	4		
Pre-Requisite	None	Co-requisite	None						
Course Objectives The objective of this course is to educate students on the fundamental concepts, to in financial analytics						s used			

	Course Outcomes							
CO1	To understand key financial statements and apply common-size analysis to evaluate an organization's financial							
	performance.							
CO2	To Develop the ability to prepare and analyze cash budgets for effective cash management and financial planning.							
CO3	To Analyze financial statements using various ratios and models to assess a firm's financial health, profitability, and risk.							
CO4	To Apply financial forecasting techniques and regression tools to predict future financial performance and support strategic							
	decision-making.							
COS	To Apply the principles of the Time Value of Money to evaluate financial decisions involving cash flows over time							

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO					
1	Building Basic Financial Statements	Understand the structure and purpose of financial statements, including the income statement, balance sheet, and cash flow statement, and perform common-size analysis for financial evaluation.	10	CO1					
2	Cash Budget	Meaning and importance of cash budgeting; Objectives and motives for holding cash; Key components of a cash budget; Forecasting future cash flow and annualized cash flow; Preparation of cash budgets using the Adjusted Profit & Loss Method, Managing surplus cash and exploring investment opportunities.	14	CO2					
3Financial Statement AnalysisRatio Analysis: Types and interpretation; Liquidity, Efficiency, Coverage, and Profitability Ratios: ROI-based profitability analysis; Owner's and investor's perspectives on ratios; Leverage and Leverage Ratios; Z-Score Model: Altman1414									
4	Financial ForecastingPurpose and significance of financial forecasting:Advantages and limitations; Forecasting Methods: Balance Sheet forecasting; Regression12								
5	Time Value of Money	Concepts of Future Value and Present Value; Understanding Annuities: Ordinary, Due, and Perpetuity; Loan Amortization: Structure and calculations; Application in evaluating financial decisions.	10	CO5					
Refere	ence Books:								
Financi	Financial Planning & Analysis and Performance Management by Jack Alexander								
Applied	Applied Financial Analytics: The Art and Science of Investment Management "by Michael S. Gendron								
Principles of Financial Modelling: Model Design and Best Practices Using Excel and VBA" by Michael Rees									
-Learning Source:									
https://v	https://www.coursera.org/courses?query=financial+analytics&utm_source.com								
https://v	www.mygreatlearning.c	com/academy/learn-for-free/courses/analytics-in-finance?utm_source.com							
https://o	ocw.mit.edu/courses/15	-450-analytics-of-finance-fall-2010?utm_source=.com							

		Course Articulation Matrix: (Mapping of COs with POs and PSOs)							
PO-PSO	PO1	PO2	PO3	PO4	PO5		DSUJ	DSO3	PSO4
CO	FOI	102	105	104	105	1301	1302	1303	1504
CO1	2	2	2	1	1	2	2	1	1
CO2	2	2	2	1	1	3	2	1	1
CO3	2	1	2	1	2	2	2	2	1
CO4	2	2	3	2	2	2	3	2	2
CO5	2	2	2	1	2	2	2	2	1
CO5	2	2	2	1	2	2	2	2	1

Name & Sign of Program Coordinator	Sign & Seal of HoD



Effective from Session: 2025-26										
Course Code	CM539	Title of the Course	Data Visualization and Communication	L	Т	Р	С			
Year	Π	Semester	IV	3	1	0	4			
Pre-Requisite None Co-requisite None										
	To familiarize students with the core principles, tools and techniques of data visualization and									
Course Objectives communication, enabling them to analyze, interpret, and present data effectively for informed										
business decision-making.										

	Course Outcomes							
CO1	To know various concepts of statistics							
CO2	To familiarized the basics of R and its application							
CO3	To learn usage of Watson studio							
CO4	To understand and analyze the fundamentals of data visualization and the role of Power BI in transforming raw data into							
	meaningful insights.							
CO5	To understand large volume of data, discover trends, communicate effectively with all stakeholders and influence decisions.							

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO				
1	1Introduction to StatisticsIntroduction to statistics; Descriptive vs inferential statistics; Drawing inferences from data; Random variables and probability distributions; Sampling concepts and sampling distributions.							
2 Data visualization Basics of R and RStudio installation; Descriptive data analysis using R; Use of R functions for data summarization; Introduction to data refinery and Visualization of datasets using Watson Studio.								
3	3 Data Visualization Tools in Python Introduction to Python and Jupyter Notebook; Fundamentals of Python scripting for data handling; NumPy and Pandas for data preparation; Data visualization with Matplotlib including basic plots, Waffle Charts, and Word Clouds.							
4 Power BI in Data Visualization Creating dashboards using Power BI; Building interactive and dynamic visualization; Advanced graphical representation; Techniques for interactive data exploration, plot manipulation, and visual enhancement.								
5	Storytelling with Data	Principles of data storytelling; Structuring data narratives for clarity and impact; Combining data, visuals, and narrative flow; Audience-centric communication techniques for business insights.	12	CO5				
Referen	ce Books:							
Core P	Core Python Programming - Second Edition, R. Nageswara Rao, Dreamtech Press							
R Graphics Essentials for Great Data Visualization by Alboukadel Kassambara								
Kobert Spence "Information visualization – Design for interaction", Pearson Education, 2nd Edition, 2007.								
Alexandru C. Telea, Data visualization: Principles and Practice, A. K. Peters Ltd, 2008.								
https://	onlinecourses swaya	m2 ac in/ntr24_ed70/nreview						
1								

https://learn.microsoft.com/en-us/training/powerplatform/power-bi

		Course Articulation Matrix: (Mapping of COs with POs and PSOs)								
PO-PSO	DO1	DOJ	DO2	DO4	DOS	DSO1	DEOJ		DSO4	
СО	POI	PO2	105	104	POS	P301	P302	P305	F304	
CO1	1	1	2	2	1	-	1	-	1	
CO2	2	1	2	2	1	1	2	-	1	
CO3	1	2	2	1	2	2	1	2	2	
CO4	2	2	1	2	1	-	2	1	1	
CO5	1	2	1	1	2	1	1	2	2	

Name & Sign of Program Coordinator	Sign & Seal of HoD



Effective from Session: 2025-26							
Course Code	CM540	Title of the Course	Fundamentals of Data Science	L	Т	Р	C
Year	Π	Semester	IV	3	1	0	4
Pre-Requisite	None	Co-requisite	None				
Course Objectives	The course Science and	aims and intends to t its scope and applicat	familiarize the post graduate commerce students with ion.	1 the	basics	of Data	ι

	Course Outcomes
CO1	To familiarize the students with the significance of data science and understand the Data Science process
CO2	To comprehend how data is collected, managed and stored for data science
CO3	To make students apply different techniques of statistical analysis.
CO4	To enable to analyze data using various Visualization techniques
CO5	To make students apply contemporary models, such as machine learning, AI, and techniques to solve practical
	problems

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapp ed CO		
1	Introduction to Data Science	Definition, Big Data and Data Science Hype, Datafication, Data Science Profile, Meta-Definition, Data Scientist, Statistical Inference, Populations and Samples, Populations and Samples of Big Data, Big Data Can Mean Big Assumptions, Modeling, Philosophy of Exploratory Data Analysis, The Data Science Process, A Data Scientist's Role in this Process Case Study: Real Direct.	14	CO1		
2	Mathematical Preliminaries & Data Munging	Probability, Descriptive Statistics, Correlation Analysis. Properties of Data, Languages for Data Science, Collecting Data, Cleaning Data, Crowdsourcing	10	CO2		
3	Scores and Rankings & Statistical Analysis	Developing Scoring Systems, Z-scores and Normalization, Advanced Ranking Techniques. Sampling from Distributions, Statistical Distributions, Statistical Significance, Permutation Tests and P-values	12	CO3		
4	Visualizing Data & Mathematical Models	Exploratory Data Analysis, Developing a Visualization Aesthetic, Chart Types, Great Visualizations. Philosophies of Modeling, A Taxonomy of Models, Baseline Models, Evaluating Models, Evaluation Environment.	12	CO4		
5	Supervised Learning	Linear Regression, Better Regression Models, Regression as Parameter Fitting, Simplifying Models through Regularization, Classification and Logistic Regression, Issues in Logistic Classification, Naive Bayes, Decision Trees Classifiers	12	CO5		
Referen	nce Books:					
Joel Gru	is," Data Science from S	cratch," First Edition, April 2015				
Jure Leskovek, Anand Raja Raman and Jeffrey Ullman. Mining of Massive Datasets. v2.1, Cambridge University Press. 2 edition (30 September 2014)						
Rachel S	Schutt & O'Neil, "Doing	g Data Science", Straight Talk from The Frontline O'REILLY, ISBN:978-1-449-35	5865-5, 1st	edition,		
October	2013.					

R Programming for Data Science, Roger D. Peng, Lean Pub, 2015.

e-Learning Source:

"Data science for engineers" https://nptel.ac.in/noc/courses/noc20/SEM1/noc20-cs28/

		Course Articulation Matrix: (Mapping of COs with POs and PSOs)							
PO-PSO	PO1	PO2	PO3	PO4	PO5	DSO1	DSO2	DSO3	PSO4
CO	roi	102	105	104	105	1301	1302	1303	1304
CO1	1	-	2	2	2	2	-	1	1
CO2	2	1	1	-	2	2	2	-	-
CO3	1	2	1	1	-	1	1	-	2
CO4	2	1	-	2	1	1	1	1	1
CO5	-	-	-	1	-	-	-	2	1



Effective from Session: 2025-26							
Course Code	CM541	Title of the Course	Artificial Intelligence in Business	L	Т	Р	С
Year	Π	Semester	IV	3	1	0	4
Pre-Requisite	None	Co-requisite	None				
Course Objectives	To equip the business & c	e students with the kno lecision-making	owledge of artificial intelligence & machine learning a	nd its	role	in	

	Course Outcomes					
CO1	To understand the usage of AI concepts within business planning and designing					
CO2	To study the concepts of natural language processing in AI.					
CO3	To study the supervised/unsupervised machine learning and game techniques.					
CO4	To assess the opportunities and challenges of integrating AI into business operations					
CO5	To gain knowledge on AI-based governance & the ethical implications of Artificial Intelligence					

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO		
1	Introduction to AI	Application of AI, Problem, Problem Space and Searches: Problem Characteristics, Simple Problem Solving, Examples, Searching for Solution. Artificial intelligence and machine learning: Opportunities for digital business, Data to decisions: Evolving interrelationships	12	CO1		
2	Natural Language Processing	Introduction, Overview of Linguistics, Grammar and Languages, Parsing Techniques, Semantic Analysis and Representation Structure, Natural Language Generation, Natural Language Systems, Introduction to Learning and Expert System.	!2	CO2		
3	Machine Learning, Game Playing	Supervised and Unsupervised Learning, Decision Trees, Statistical Learning models, Learning with Complete Data: Naive Bayes Models, Learning with Hidden Data: EM algorithm, Reinforcement Learning, Overview, MiniMax, Alpha-Beta Cut-off, Refinements, Iterative Deepening.	!2	CO3		
4	AI Adoption & Business Applications	Intelligent business processes with embedded analytics, Adopting data-driven culture: Leadership and change management for business optimization. Applications of Artificial Intelligence in various functional areas of business – marketing, finance, Human Resources and Operations. Significance and challenges for digital business	!2	CO4		
5	Digital Leadership & Ethics in AI	Digital leadership: Strategies for AI adoption, Dynamicity in learning: Smart selection of learning techniques. Natural intelligence and social aspects of AI-based decisions, Ethical implications of Artificial Intelligence.	!2	CO5		
Referen	nce Books:					
Bernard	l Marr, Matt Ward, "A	rtificial Intelligence in Practice", Wiley, 2019				
Rajendı	ra Akerkar, "Artificial	Intelligence for Business", Springer, 2019				
Doug R	ose, "Artificial Intellig	gence for Business", Pearson FT Press, 2020				
Bhuvan Unhelkar and Tad Gonsalves, "Artificial Intelligence for Business Optimization - Research and Applications", CRC Press, Taylor & Francis, 2021.						
e-Lean	rning Source:					
https://w	www.coursera.org/spec	ializations/ai-for-business-wharton				

https://www.ibm.com/think/topics/artificial-intelligence-business

PO-PSO	PO1	DOJ	PO2	DOJ	PO1	PO1	PO2	DO3	DO4	DO5	DSO1	DSO2	DSO2	DSO/
CO	F02	P05	F04	FOS	1301	F302	1303	F304						
CO1	3	1	2	1	2	1	1	2	1					
CO2	2	3	2	1	1	1	3	3	1					
CO3	2	2	2	3	1	3	1	1	1					
CO4	1	2	3	2	2	2	2	1	2					
CO5	1	1	1	3	3	1	1	2	3					



Effectiv	e from Session: 20	25-26							
Course	Code	CM542	Title of the Course	Fund Management in Commercial Banks	L	Т	Р	С	
Year		Π	Semester	IV	3	1	0	4	
Pre-Ree	quisite	None	Co-requisite	None					
Course	Objectives	To equip stu practices in	dents with essential k commercial banking.	nowledge of fund management, credit, investment, and	d sustai	inable		•	
<u> </u>	m 1 1 1 1		C	ourse Outcomes					
CO1	To understand the	nature, scope	, and management of	capital funds along with sustainable banking practices					
CO2	To analyze liquidi	ty manageme	nt and asset-liability i	management strategies in commercial banks.					
CO3	To evaluate the pu	rpose, types,	and management of r	eserves and cash in commercial banks.					
CO4	To apply marketin	g and credit r	nanagement strategie	s in deposit mobilization and loan evaluation.					
CO5	To formulate inve	stment policie	es and assess income a	and expenditure patterns in commercial banks.					
Unit No.	Title of the Unit	:		Content of Unit	Cont Hr	act s.	Mapp d CC	pe D	
1	Capital Fund Management and Sustainable Banking Practice	Nature a Norms – Function Standard	And Scope of Fund Management of Ca s of Capital Funds; s for Measuring Ca tion to the Sustainable	Management – Allocation of funds – Basel III pital Funds in Commercial Banks; Meaning and Importance of Maintaining Adequate Capital; apital Adequacy; Banking and Sustainability – e Banking Network (SBN).	12	2	CO1		
2	Liquidity and Asset-Liability Management	Liquidity Theories Advance India.	Liquidity Management in Commercial Funds and Asset Liability Management Theories; Priorities in the employment of bank funds: Liquidity Reserve, loan and Advances; Investment; Priority Sector Lending. Problems in resource allocation in India.					CO2	
3	Reserve and Casl Management in Commercial Bank	Manager reserves role; Seconda influenci secondar	Ianagement of Reserves: Nature and purpose of primary reserves; Legal eserves – their nature and functions; Working reserves – characteristics and ble; Cash management in commercial banks. econdary Reserves: Nature and role of secondary reserves; Key factors afluencing secondary reserves; Estimation and effective management of12CO3						
4	Deposit and Cred Management in Commercial Bank	Manager banks; C commerc Manager Assessm decision.	nent of Bank Deposit oncept of bank marke cial banks. nent of Bank Loans: ent of loan applicatio	s: Various Approach for Deposit Mobilization by eting; Developing marketing strategies for Loan policy framework in commercial banks; ns – Credit information, credit analysis, credit	12	2	CO4	Ļ	
5	Investment and Financial Performance in Banks	Manager and co Structure Banking	Management of Bank Investments: Formulation of investment policies; Volume and composition of investments by commercial banks in India. Structure of Banking Income Statement and Balance Sheet: Components of a Banking Income Statement, Balance Sheet and Key Ratios.					5	
Referen	nce Books:								
Bharati	V. Rathok, Indian	Financial Sys	tem, Pearson Edn,200)6					
Cates D	avid, "Liquidity Le	ssons for the '	"90s" Bank Managem	nent April1990					
G S Por	li and S K Puri Str	ategic Credit	Management in Bank	rs: PHI Learning					
HRM	achiraiu: Modern C	ommercial R	nking. New Age Inte	rnational					
	ciniaju. Wouerin C		unking. Ivew Age Inte						
e-Lear	ning Source:								
RBI e-l	earning portal: <u>http</u>	<u>s://rbi.org.in</u> -	 Circulars and educa 	tional notes on Basel III, capital adequacy.					
IBA Le	arning Centre: <u>http</u>	s://www.iba.c	org.in – Professional o	courses on bank lending and deposit mobilization					

		Course Articulation Matrix: (Mapping of COs with POs and PSOs)							
PO-PSO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSOA
СО	101	102	105	104	105	1501	1502	1505	1504
CO1	1	1	2	2	2	2	1	1	2
CO2	1	1	1	-	2	-	2	2	1
CO3	1	1	2	1	1	-	2	1	2
CO4	1	1	1	-	1	1	1	2	1
CO5	1	1	1	-	-	-	1	1	2

1. Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Sign & Seal of HoD



Effective from Session: 2025-26							
Course Code	CM543	Title of the Course	Investment Valuation & Analysis	L	Т	Р	С
Year	П	Semester	IV	3	1	0	4
Pre-Requisite	None	Co-requisite	Co-requisite None				
Course Objectives	The student should be enable to equip the technique of investment decision making.						

	Course Outcomes
CO1	To understand the fundamental concepts of investment, risk, and return.
CO2	To analyze financial statements and estimate intrinsic value of securities.
CO3	To evaluate different valuation models for equity, bonds, and other assets.
CO4	To assess portfolio management strategies and investment decisions using quantitative tools.
CO5	To critically examine real-world cases related to investment valuation and financial markets in India.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO					
1	Introduction to Investment and Valuation	Nature and scope of investment, Investment process and environment. Risk and return: types, measurement, and trade-off, Time value of money and basic valuation principles, Overview of Indian capital markets and instruments.	12	CO1					
2	Fundamental and Technical Analysis	Financial statement analysis for investment decisions, Ratio analysis, cash flow analysis, and forecasting earnings, Economic, industry, and company (EIC) analysis, Introduction to technical analysis: charting, indicators, trends, Efficient Market Hypothesis and behavioral finance overview	12	CO2					
3	Valuation of Securities	n of les Valuation of equity: dividend discount models (DDM), free cash flow models, Relative valuation methods: P/E, P/B, EV/EBITDA, Valuation of bonds and fixed income securities: YTM, duration, convexity, Valuation of derivatives (basic overview): options and futures pricing, Valuation challenges in startups and emerging firms							
4	Portfolio Analysis and Asset Allocation	Modern Portfolio Theory: risk-return optimization, CAPM, Beta, and SML, Portfolio construction and diversification, Mutual funds and ETFs, Performance measurement: Sharpe ratio, Treynor ratio, Jensen's Alpha.		CO4					
5	Advanced Topics and Real-World Applications	Behavioral finance insights in valuation, Valuation in M&A and distressed companies, Case studies in Indian capital markets (Zomato IPO, LIC valuation, etc.), Regulatory framework: SEBI guidelines, disclosure norms, ESG investing and valuation implications		CO5					
Refere	nce Books:								
Fisher &	& Jordan :Security Ana	lysis and Portfolio Management							
Jack Clark Francis : Management of Investments Mc Graw Hill									
Markowitz: Portfolio Selection Yale University Press, Yale									
John Tu	John Tuttle, Healton: Essential of Modern Investments								
e-Lea	rning Source:								
https://v	www.youtube.com/char	nnel/UCLvnJL8htRR1T9cbSccaoVw							
https://x	www.youtuba.com/wat	ah ⁹ w=znmO7oMiOrM							

https://www.youtube.com/watch?v=znmQ7oMiQrM

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)											
PO-PSO	PO1	PO2	PO3	PO4	PO5	DSO1	DSO)	DSO3	PSO4			
СО	roi	102	105	104	105	1501	1302	1305	r304			
CO1	1	-	2	2	2	2	-	1	1			
CO2	2	1	1	-	2	2	2	-	-			
CO3	1	2	1	1	-	1	1	-	2			
CO4	2	1	-	2	1	1	1	1	1			
CO5	-	-	-	1	-	-	-	2	1			

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Effective from Session: 2025-26										
Course Code	CM544	Title of the Course	le of the Course Financial Accounting & Reporting			Р	С			
Year II Semester IV		IV	3	1	0	4				
Pre-Requisite	None	Co-requisite	None							
Course Objectives	To acquire conceptual knowledge of financial accounting and its various techniques for preparing accounts in different business organizations.									

	Course Outcomes						
CO1	To describe core accounting principles and apply knowledge of accounting standards and IFRS.						
CO2	To apply the accounting cycle to accurately record, classify, and rectify financial transactions.						
CO3	To prepare comprehensive final accounts with adjustments for various types of organizations.						
CO4	To analyze and record transactions under hire purchase, instalment, branch, and lease accounting systems.						
CO5	To create and manage computerized financial records using accounting software to generate accurate reports.						

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO				
1	Introduction to Accounting	Accounting- Definition, functions, scope, advantage and limitations; Accounting as an Information System; Financial Accounting Principles- Concepts and Conventions; Accounting standards- Concept, International Financial Reporting Standards (IFRS)-Need and procedures, Convergence to IFRS.	10	CO1				
2	Accounting Process	Account: Meaning, types; Accounting Equation; Accounting Cycle; Journal, Ledger, Trial Balance, Subsidiary books, Bank Reconciliation Statement- Rectification of Errors- Suspense Account.; Double Entry System; Systems of Accounting; Depreciation- Straight Line and Written Down Value Methods	10	CO2				
3	3 Preparation of Final Accounts of Non-Profit making Organizations; Distinction between Capital and Revenue Expenditure; Adjustments in Final Accounts: Outstanding Expenses, Accrued Income, Prepaid Expenses, Unearned Income, Depreciation, Bad Debts, Provision for Doubtful Debts							
4	Specialized Accounting Systems	Hire Purchase System: Meaning, features, Accounting Treatment in the Books of Hire Purchaser and Hire Vendor, Calculation of Interest and Cash Price; Instalment Payment System: Method: System and its Operation, Entries in the Books of the Buyer and Seller, Comparison with Hire Purchase System; Branch Accounting; Lease Accounting.	15	CO4				
5	Financial Reporting	Computerized Accounting System (using accounting software); Creation of Vouchers; recording transactions; preparing reports, cash book, bank book, ledger accounts, trial balance, Profit and loss account, Balance Sheet.	10	CO5				
Referen	ce Books:							
Financia	al Accounting- S.N. Mahe	eshwari						
Financial and Advanced Accounting- Arvind Kumar and Vishal Saxena								
Financial Accounting: Concepts and Applications- J R Monga								
Financia	Financial Accounting and Reporting (Fundamentals) (3rd Edition – 2020)- Millan							
e-Lear	ning Source:							
https://w	ww.ignouhelp.in/ignou-b	coc-131-study-material/						

https://icmai.co.in/upload/Students/Syllabus2022/Inter_Stdy_Mtrl/P6_160824.pdf

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)											
PO-PSO	PO1	POT	DO3	PO4	PO5	DEO1	PSO2	DSO2	DSO/			
СО	101	102	105	104	105	1501	1502	1505	1504			
CO1	1	1	2	2	2	2		-	-			
CO2	1	1	1	-	2	-	2	-	-			
CO3	1	1	2	1	1	-		-	-			
CO4	1	1	1	-	1	1		-	-			
CO5	1	1	1	-	-	-	1	-	-			

Name & Sign of Program Coordinator	Sign & Seal of HoD



EffectivefromSession:2025-26									
Course Code	MT554	Title of the Course	Predictive Analytics	L	Т	Р	С		
Year	П	Semester	IV	3	1	0	4		
Pre-Requisite	None	Co-requisite	None						
Course Objectives	To develop an understanding of the importance of analytics in business and applications of various tools And techniques to evaluate performance by generating reports.								

	Course Outcomes
CO1	Toenablethestudentstounderstandtheconceptanduseofanalyticsintoday'sera.
CO2	Toenablethestudentstolearnhowtodevelopmodelstopredictcategoricalandcontinuousoutcome.
CO3	TohelpthestudentsenhancetheirskillsinLogisticRegressionandapplyit.
CO4	Toenablethestudentstoapplydecisiontreetechniquesandunstructureddataanalysis methods.
CO5	Toenablestudentstoapplyforecastingtechniquesinmakingeffectivebusinessdecisions

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO			
1	Introduction To Analytics	IntroductiontoPredictiveAnalytics;Needandimportance;Applicationin Business; Analytics in decision Making- Game changers & Innovators; Model; expert views on analytics	10	CO1			
2	Simple and Multiple Linear Regression	Introduction to Regression; Requirements in Regression Model Building; Model; Development and Model Validation using Simple Linear Regression; Significance ofMultipleRegressionAnalysis-StructureofModelEstimation-TestingRuleof MultipleRegressionAnalysis;ModelDiagnostic-Dummy,Derived&Interaction Variables-Multi-collinearity-Model Deployment-Demo using SPSS	14	CO2			
3	Logistic Regression	Discrete choice models- Logistic Regression; Maximum Likelihood Estimation of Parameters; Logistic Model Interpretation; Logistic Model Diagnostics; Logistic Model Deployment-Demo using SPSS	12	CO3			
4	Decision Trees and Unstructured Data Analysis	Introduction to Decision Trees- Chi-Square Automatic Interaction Detectors (CHAID); Classification and Regression Tree (CART); Analysis of Unstructured data; Naive Bayes Classification; Demo using SPSS	12	CO4			
5	Forecasting and Time series Analysis	Forecasting-TimeSeriesAnalysis-Additive&MultiplicativeModels-Exponential smoothingtechniquesForecastingAccuracy-Auto-regressiveandmovingaverage models-Demo using SPSS	12	CO5			
Referen	nce Books:						
TrevorI Springe	Hastie,RobertTibshiran r Verlag, 2009	i,JeromeFriedman,TheElementsofStatisticalLearning-DataMining,Inference,andPredi	ction, Seco	nd Edition,			
C.M.Bi	shop-PatternRecognitie	onandMachineLearning,Springer,2006.					
EL.Wasserman-Allofstatistics							
GarethJ	ames.DanielaWitten.Tr	revorHastieRobertTibshirani.AnIntroduction toStatisticalLearningwithApplicationsin 1	R.				
e-Learn	ingSource:						
https://y	voutu.be/VaSjiJMrq24	<u>si=yjoNzC4teJ3lPu W</u>					
https://y	outu.be/hK-qUy3UfT8	?si=dqNINGme0ubANB5h					

	Course Articulation Matrix:(MappingofCOswithPOsandPSOs)										
PO-PSO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSOA		
СО	101	102	105	104	105	1501	1502	1505	1504		
CO1	3	2	2	1	1	3	1	2	1		
CO2	3	2	3	-	2	3	1	2	1		
CO3	3	2	3	1	2	3	-	2	1		
CO4	2	2	3	1	2	3	1	2	-		
CO5	3	1	3	-	2	3	1	3	1		

Name&SignofProgramCoordinator	Sign&SealofHoD						



Effective from Session: 2025-26							
Course Code	CM546	Title of the Course	Title of the Course Supply Chain Design and Management J		Т	Р	С
Year	II Semester IV		IV	3	1	0	4
Pre-Requisite	None	Co-requisite	None				
Course Objectives	To equip stuc supply chain	To equip students with a comprehensive understanding of the key concepts, strategies, and operational practices within supply chain management					

	Course Outcomes						
CO1	To enable the learner to understand and apply the core concepts, models, and supply chain management theories.						
CO2	To enable the learner to evaluate supply chain strategies and design a robust supply chain network						
CO3	To enable the learner to analyze and implement demand and supply management techniques						
CO4	To enable the learner to assess and optimize transportation networks and sourcing strategies						
CO5	To enable the learner to understand trends in modern supply chain management, focusing on integration, agility, cost reduction,						
	digitalization, globalization, and compliance.						

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO				
1	Fundamentals of Supply Chain Management	Introduction to Supply Chain Management: Understanding basic concepts, the importance, and objectives, decision phases, models, and theories within supply chain management, supply chain strategies, achieving strategic fit, supply chain drivers, obstacles, framework, facilities, transportation, information, sourcing, and pricing.	12	1				
2	Coordination in a Supply Chain	Coordination in a Supply Chain, Lack of supply chain coordination and the Bullwhip, Effect, obstacle to coordination, managerial levels, building partnerships and trust, continuous replenishment and vendor-managed inventories, collaborative planning, forecasting and replenishment.						
3	Demand and Supply Management	Demand management, Supply Chain Planning and Coordination, role of IT. Planning and Managing Inventories- Safety inventory and its appropriate level, impact of supply uncertainty, aggregation, and replenishment policies.	10	3				
4	4Transportation Networks and SourcingTransportation Networks and Sourcing: Role of transportation, modes and their performance, transportation infrastructure and policies, design options and their trade-offs, Customized transportation solutions, Evaluation of sourcing strategies: in-house versus outsourcing, including the roles of third-party (3PL) and fourth-party logistics (4PL)144							
5	5Trends in Supply Chain ManagementTrends in Supply Chain Management. Integration of supply Chains, Cost Reduction, Agile logistics, E – Business, Globalization, Outsourcing, Changing practices in Logistics. Collaborative planning and joint innovation with suppliers, Compliance with labor, safety, and environmental standards, Adapting to changing international trade laws and tariffs125							
Referen	ce Books:							
Sunil ch	opra and Peter Meindl, Si	upply Chain Management – Strategy, planning and operation, phi, 4th edition, 2010.						
Wisner,	Keong Leong and Keah-o	choon Tan, principles of Supply chain management a balanced approach, Thomson press, 2005.						

Chandrasekaran, N. (2010). Supply chain management: process, system, and practice. Oxford University Press.

e-Learning Source:

https://www.ignouassignmentguru.com/mmpo-005-study-material-download/

https://www.youtube.com/watch?v=Rp1gEjeqrGs&pp=ygUNI2lnbm91bW1wbzAwNQ%3D%3D

		Course Articulation Matrix: (Mapping of COs with POs and PSOs)							
PO-PSO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4
СО									
CO1	3	3	2	1	1	2	1	2	1
CO2	3	3	1	1	2	2	1	3	1
CO3	3	3	3	1	1	3	-	2	1
CO4	2	2	3	1	2	3	-	2	1
CO5	3	3	2	2	1	2	1	3	2

Name & Sign of Program Coordinator	Sign & Seal of HoD



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Effective from Session: 2025-26								
Course Code	CM547	Title of the Course	HR Analytics	L	Т	Р	С	
Year	П	Semester	IV	3	1	0	4	
Pre-Requisite	None	Co-requisite	None					
Course Objectives	To introduce the fundamentals of HR Analytics and its significance in enhancing human resource functions and strategic decision-making.							

	Course Outcomes
CO1	To understand the fundamental concepts of HR analytics and the role of HR metrics in data-driven decision-making.
CO2	To analyze different HR analytics models and apply data collection and purification techniques to prepare datasets for HR
	analysis.
CO3	To apply HR analytics techniques using MS Excel to core HR functions like recruitment, performance appraisal, and
	compensation management.
CO4	To evaluate and implement HR analytics process frameworks s and understand various analytics maturity levels.
CO5	To develop a strategic HR analytics unit and utilize HR scorecards to measure and enhance HR's contribution to
	organizational performance.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO				
1	Essentials of HR Analytics	Concept of Analytics, Concepts of Analytics in HR Context: People and Workforce Analytics, Importance of HR Analytics, Understanding HR indicators conceptually, Introduction to HR metrics: meaning, importance.	12	CO1				
2	HR Data Handling	Models of HR Analytics, How to Conduct HR Analytics. Understanding HR Data: Importance of Data, Types and Scales of Data; Methods of Capturing Data, Data Examination & Purification. Understanding various HR Metrics from the perspective of HR Analytics.	15	CO2				
3	Hands-on HR Analytics with Excel	HR Analytics for Recruitment & Selection, Training & Development, Performance Appraisal, Talent Management, Employee Engagement, Compensation Management and Expatriate Management.	13	CO3				
4	HR Analytics Frameworks	Introduction to Benchmarking, Frameworks for HR Analytics: LAMP Framework, HCM 21 Framework, HR Analytics Process/ Cycle, Introduction to levels of HR Analytics.	12	CO4				
5	HR Performance Analytics Developing HR Scorecard, Developing HR Analytics Unit: Analytics Culture, Analytics for decision making.							
Referen	ce Books:							
Bassi, L.	, Carpenter, R., and McM	Jurrer, D., (2012). HR Analytics Handbook. Reed Business						
Rama Sh	Rama Shankar Yadav & Sunil Maheshwari, HR Analytics, Wiley, 2021.							
Nishant Uppal, Human Resource Analytics, Pearson, 2021.								
Bharti M	Iotwani, HR Analytics: P	ractical Approach Using Python, Wiley, 2021.						
e-Lear	ning Source:							
https://w	ww.youtube.com/watch?	v=kOSzGhHse-M&pp=ygUMSFIgYW5hbHl0aWNz						
https://w	ww.youtube.com/watch?	v=mhMorNa1uB8&list=PLsh2FvSr3n7ch3k39k-GBY1yNs41_N2D2						

		Course Articulation Matrix: (Mapping of COs with POs and PSOs)							
PO-PSO	PO1	DOJ	DO3	PO4	PO5	DSO1	DSO2	DSO2	PSO4
СО	FOI	r02	F05	r04	FOS	1301	F302	1303	F304
CO1	1	2	3	1	1	1	1	2	1
CO2	1	2	3	1	1	1	1	2	1
CO3	1	2	3	1	2	1	1	2	1
CO4	1	2	3	2	1	1	1	2	2
CO5	1	2	3	2	2	1	1	2	3

Name & Sign of Program Coordinator	Sign & Seal of HoD