MODEL CURRICULUM FOR

THREE/FOUR YEAR DEGREE COURSE
BASED ON NEP 2020

COMMERCE

W.E.F. 2024-25 (ACADEMIC SESSION)
(FIFTH SEMESTER)

Odisha State Higher Education Council, Bhubaneswar
Government of Odisha

D.A.V. SCHOOL OF BUSINESS MANAGEMENT

(UG & PG College in Commerce & Management)

(Accredited by NAAC, Approved by AICTE & Managed by DAV CMC, New Delhi)
Unit-VIII, Nayapalli, Bhubaneswar-751012 | E-mail: dsbmbbsr@gmail.com |
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CREDIT FRAMEWORK FOR UG COMMERCE COURSE COMPATIBLE WITH NEP-2020 NEP Commerce Syllabus, Odisha B. Com. Honours

SEMESTER-IV

Summer Certificate Vocational Course of 4 credits			
SEMESTER-V			
Paper	**Course Titles**	**Paper Code & Type**	**Credit Points**
5.1	Financial Statement Analysis	Core-I.11: Disciplinary Major	4
5.2	Business Data Analytics	Core-I.12: Disciplinary Major	4
5.3	Fundamentals of IND-AS & IFRS	Core-I.13: Disciplinary Major	4
5.4	Insurance Theory and Practices	Core II.3: Inter- Disciplinary Minor	4
5.5	Fundamentals of Data Science and Data Management	SEC-II	3
5.6	Introduction to Artificial Intelligence	VAC	3
Total Credit			**22**

Paper	**5.1**
Course Title	**Financial Statement Analysis**
Paper Code	**Core-I.11**
Paper Type	**Disciplinary Major**
Credit Point	**4**
Course Objectivs	The course provides a user perspective on the role of accounting and financial reporting in capturing and conveying economic information about an organization and aims at helping students acquire confidence in using the concepts and vocabulary of accounting to analyse and communicate about business performance and resource allocation
Course Outcome	After completion of the course, learners will be able to: • Learn about the basics of analytics, the types and their application; • Learn the technique of projecting growth, income and cash from accounting data for the future through time-series models; • Learn accounting ratios and forecasting through the SLR model; • Learn data visualization through graph, SLR & the method of Least Squares for estimation of parameters; • Learn the use of R-Programming for analysing accounting data.
	Unit I: Introduction to Analytics Introduction to Analytics, Analysis& Business Analytics; Overview of Machine Learning and Artificial Intelligence; Types of Analytics (Descriptive, Predictive & Prescriptive); Application of Analytics in Business Functions.
	Unit II: Financial Statements Analysis (Using Descriptive & Predictive Models) Financial statement analysis-Techniques of financial statement analysis Descriptive analysis of Comparative Statements, Common-size Statements, Trend percentages, Cash Flow Statement (Overview only). Future Cash/ Cash Flow, Growth & Income projection of a business from accounting data available from financial statements through time series model.
	Unit III: Accounting Ratios and Forecasting Classification of ratios–Ratio formation (Overview only)–Ratio interpretation (Practical Problem); Time Series (intra firm) Analysis, Cross Sectional (inter firm) Analysis, Residual Analysis and Multivariate Analysis; Projection of future at ios through Simple linear Regression model.
	Unit IV: Data Visualization and Decision making • Histogram, Bar Chart, Pie Chart, Scatter Plot, Box Plot, Line Charts. Simple Regression Analysis (SLR) (Overview only): Introduction, SLR Model Building, Estimation of parameters using Ordinary Least Squares. • Accounting Data Analytics Tools: Spread sheets, Data Science Languages, Data Manipulation in Spread sheet, Spread sheet Functions-Advanced functions

Suggested Readings	• *Sharma, R. K., & Gupta, S. K. (2016). Management Accounting. Cuttack, Odisha: Kalyani Publishers.* • *Ahuja, N. L., &Dawar, V. (2015). Financial Accounting and Analysis. New Delhi: Taxmann Publications.* • *Bernstein, L. A. (1974). Understanding Corporate Reports: A guide to Financial Statements. Homewood,California: Dow Jones-lrwin.* • *Bhattacharjee, Ashish Kumar; Financial Accounting for Business Managers, Prentice Hall of India,* • *Friedson, M. S., & Alvarez, F. (2011). Financial Statement Analysis: A practioners' Guide. New Jersey: Wiley.* • Foster, G. (1986). Financial Statement Analysis. London: Pearson Education. • *Gopalkrishnan, A. A. (2001). Understanding Financial Statements - Interpretation and Analysis. New Delhi:Label Book Publisher.* • *Gupta, A. (2018). Financial Accounting for Managers: An Analytical Perspective. Delhi: Pearson Education.* • *Helfert, E. A. (1996). Techniques of Financial Analysis: A Practical Guide to Measuring Business Performance.New York: McGraw Hill Education.* • *Khan, M. Y., & Jain, P. K. (2017). Management Accounting: Text, Problems and Cases. New Delhi: TataMcGraw Hill Education.* • *Lal, Jawahar&Sucheta, Gauba, Financial Reporting and Analysis. Himalaya Publishing House, Mumbai* • *Narasimhan, M. S. (2016). Financial Statement and Analysis. Noida, Uttar Pradesh: Cengage Learning India.* • *Soffer, L. C., &Soffer, R. J. (2002). Financial Statement Analysis: A Valuation Approach. London: PearsonEducation.*

Paper	**5.2**
Course Title	**Business Data Analytics**
Paper Code	**Core-I.12**
Paper Type	**Disciplinary Major**
Credit Point	**4**
Course Objectives	• Understand the fundamentals of data analytics: Students should be able to grasp the basic concepts and principles of data analytics, including data types, data sources, and data processing techniques. • Develop proficiency in data manipulation and exploration: Students should gain hands-on experience in manipulating and exploring data using tools such as spread sheets, databases, and data visualization software. • Learn statistical methods and techniques for data analysis: Students should acquire knowledge of statistical methods commonly used in business data analysis, including descriptive statistics, hypothesis testing, regression analysis, and time series analysis. • Apply data analytics techniques to real-world business problems: Students should be able to identify business problems that can be addressed through data analysis, formulate appropriate analytical approaches, and interpret the results to make informed business decisions. • Gain proficiency in data visualization: Students should develop skills in visualizing data effectively using graphs, charts, and dashboards to communicate insights and findings to stakeholders. • Understand the ethical and legal considerations in data analytics: Students should be aware of ethical issues related to data privacy, confidentiality, and bias, and understand the legal frameworks governing the collection, storage, and use of data. • Explore emerging trends and technologies in business data analytics: Students should stay updated on the latest trends, tools, and technologies in the field of data analytics, including machine learning, artificial intelligence, and big data platforms.
Course Outcomes	After completion of the course, learners will be able to: • Learn about the basics of analytics, the types and their application; • Learn the technique of projecting growth, income and cash from accounting data for the future through time-series models; • Learn accounting ratios and forecasting through the SLR model; • Learn data visualization through graph, SLR & the method of Least Squares for estimation of parameters; • Learn the use of R-Programming for analysing accounting data.
	Unit 1: Introduction to Business Data Analytics Understanding Data Analytics in Business, Definition and Importance of Business Data Analytics, Overview of Data Analytics Lifecycle: Collection, Cleaning, Analysis, Interpretation, and Visualization, Role of Data Analytics in Decision-Making and Business Strategy, Data Collection and Preprocessing. Sources of Business Data: Internal and External, Data Collection Methods: Surveys, Interviews, Observations, etc. Data Cleaning and Preprocessing Techniques: Handling Missing Values, Outliers, and Data Transformation, Exploratory Data

	Analysis (EDA). Descriptive Statistics: Measures of Central Tendency, Dispersion, and Distribution, Data Visualization Techniques: Histograms, Box Plots, Pie-charts, Doughnut, Scatter Plots etc. Identifying Patterns and Trends in Data using EDA
	Unit 2: Business Analytics Tools in Excel Introduction to Excel for Data Analytics, Advanced Data Analysis in Excel, PivotTables and Pivot Charts for Data Summarization and Visualization. Data Analysis Tools: Goal Seek, Solver, Scenario Manager, Slicer etc., Practical Applications in Excel, Case Studies and Business Scenarios, Hands-on Exercises and Projects to Apply Excel Skills in Real-World Analytics Tasks, Integration with External Data Sources and Automation Techniques
	Unit 3: Data Visualization with Power BI Introduction to Power BI, Overview of Power BI: Features, Components, and Benefits, Connecting to Data Sources: Excel, Databases, Online Services, etc. Creating Interactive Dashboards and Reports, Data Transformation and Modeling in Power BI, Creating Advanced Data Visualizations: Charts, Maps, and Gauges, Advanced Analytics and Insights in Power BI, Analyzing Data with Power BI, Sharing and Collaborating on Power BI Dashboards and Reports.
	Unit 4: Data Visualization with Tableau Introduction to Tableau, Overview of Tableau Desktop and Tableau Server, Connecting to Data Sources: Excel, Databases, Cloud Services, etc. Building Interactive Dashboards and Visualizations, Data Preparation and Analysis in Tableau, Data Cleaning and Transformation using Tableau Prep Builder, Exploratory Data Analysis with Tableau Desktop: Drag-and-Drop Analytics, Creating Calculated Fields and Parameters, Advanced Visualization Techniques in Tableau, Implementing Advanced Chart Types: Tree Maps, Heat Maps, and Dual Axis Charts, Dashboard Design Best Practices and Interactivity Features
	Project Work and Assessment: Application of Business Data Analytics Techniques and Tools in Real-World Business Scenarios, Project Planning, Execution, and Presentation, Integration of Skills Learned Throughout the Course
Suggested Readings	• *Alexander, M., Decker, J., &Wehbe, B. (2014).Microsoft Business Intelligence Tools for Excel Analysis. New Jersey: Wiley.* • *Kumar, D. U. (2017). Business Analytics: The Science of Data Driven Decision Making. New Jersey: Wiley.* • Motwani, B. (2019).Data Analytics with R. New Jersey: Wiley. • North, M. (2012). Data Mining for the masses. Athens, Georgia: Global Text Project. • Paul, T. (2011).R Cook book. New York: O Reilly Media' • *Provost, F., & Fawcett, T. (2013).Data Science for Business. New York: O'Reilly Media.*

Paper	**5.3**
Course Title	**Fundamentals of IND-AS & IFRS**
Paper Code	**Core-I.13**
Paper Type	**Disciplinary Major**
Credit Point	**4**
Course Objectives	The objective of this paper is to let the students know the fundamentals of accounting standards and corporate reporting practices. This paper will help the students to gain the knowledge on selective accounting standard.
Course Outcomes	After completion of the course, learners will be able to: • Understand the concepts of Indian Accounting Standards along with the difference between Ind AS and IFRS. • Know the contents of Annual Report and concept of triple bottom line. • Prepare statement of Cash flow statement and to have broad idea about PPP and inventory valuation. • Know basic ideas about fair value of items of financial statement and the history of adoption of Indian Accounting Standards. • Understand concepts of corporate reporting practices.
	Unit I: Introduction Accounting Standards: Meaning of Accounting Standards - Need for Accounting Standards - Significance or advantages of Accounting Standards – Limitations of Accounting Standards. Orientation to International Accounting Standards, International Financial Reporting Standards and Convergence to IFRS. Accounting Standards in Indian Context – Introduction to Indian Accounting Standards (Ind AS).Accounting Bodies. Procedure for issuing Accounting Standards by the Accounting Standards Board.
	Unit II: Regulatory Framework Preparation of Financial Statements as per Ind As: Framework for preparation of financial statements. Presentation of Financial Statements as per Ind AS 1: Statement of Profit and Loss, Balance Sheet, Statement of Changes in Equity, Statement of Cash Flows and Notes to Accounts. Problems on preparation of Statement of Profit & Loss and Balance Sheet.
	Unit III: Provisions Under Accounting Standards for items Appearing in Financial Statements: Revenue Recognition (Ind AS 18); Valuation of Inventory (Ind AS 2); Property, Plant and Equipment, including Depreciation (Ind AS 16); Borrowing Cost (Ind AS 23), Intangible Assets (Ind AS 38), Provisions (IndAS 37), Earnings per Share (Ind AS 33), Separate financial statements (IndAS-27), Annual Report, Triple Bottom Line, Statement of Cash Flows (Ind AS-7), Income Tax (Ind AS - 12).

	Unit IV: Provisions under Accounting Standards for items that Do Not Appear In Financial Statements: Segment Reporting (Ind AS 108), Related Party Disclosures (Ind AS 24), Events occurring after Balance Sheet Date (Ind AS 10), Interim Financial Reporting (Ind AS 34), Impairment of Assets (Ind AS-36), Fair value measurement (Ind AS-113), Leases (Ind AS-116)
Suggested Readings	**Suggested Readings** • *Chatterjee, B. D. &ain Jinender, Illustrated Guide to Indian Accounting Standards (Ind AS), Taxmann, New Delhi.* • *Maller, S., Accounting under Ind AS, Bloomsbury, New Delhi.* • *Rawat, D. S. & Jain Jinender, Students" Guide ToInd ASs (Converged IFRSs), Taxmann, New Delhi.* • *Uma Devi. R., Reporting Practices-Financial and Non-Financial, CSMFL, Inda.* • Anil Kumar, Rajesh Kumar and Mariyappa, Indian Accounting Standards, HPH

Paper	**5.4**
Course Title	**Insurance Theory and Practices/ Digital Marketing**
Paper Code	**Core II.3:**
Paper Type	**Inter- Disciplinary Minor**
Credit Point	**4**
Course Outcomes	**After completion of the course, learners will be able to:** • Understand the fundamental principles and concepts of insurance, including insurable interest, utmost good faith, and indemnity. • Analyze the structure and dynamics of the insurance market, including regulatory frameworks and market trends. • Evaluate different types of insurance products and services, including life insurance, property and casualty insurance, and health insurance. • Apply underwriting principles and risk assessment techniques in the context of insurance policies. • Demonstrate proficiency in claims handling and settlement procedures for various insurance types. • Assess the role and significance of reinsurance in managing insurance risks. • Integrate insurance into broader risk management strategies, including risk assessment and mitigation. • Critically analyze insurance policies and contracts to identify coverage gaps and potential risks. • Apply ethical considerations and professional standards in insurance practices and decision-making. • Communicate effectively about insurance concepts, policies, and practices to diverse stakeholders.
Course Outlines	**Unit-1: Introduction to Insurance** Definition and concept of insurance, Historical development of insurance, Types of insurance products and services. Principles of Insurance; Insurable interest, utmost good faith, indemnity, contribution, and subrogation Principle of proximate cause and principle of mitigation of loss, Principle of utmost good faith (Uberrimae-Fidei) and principle of indemnity. Insurance Market and Regulation; Structure of the insurance industry, Regulatory bodies and insurance laws, Market dynamics and trends.
	Unit-2: Life Insurance and Health Insurance Basic concepts and types of life insurance policies, Underwriting process and risk assessment, Claims management in life insurance, Overview of health insurance systems and models, Types of health insurance products, Regulatory aspects and healthcare reform
	Unit-3: Property and Casualty Insurance and Reinsurance Types of property and casualty insurance, Underwriting considerations for property and casualty risks, Claims handling and settlement procedures. Role and importance of reinsurance in the insurance industry, Types of reinsurance arrangements and structures, Reinsurance underwriting and claims handling
	Unit-4: Risk Management and Insurance Integration of insurance into risk management strategies, Risk assessment and mitigation techniques, Insurance as a tool for financial planning and protection

Suggested Readings	✓ *Mishra M Singh Jagroop, Indian Banking and Insurance System, kalyani publisher.* ✓ *Banking,RiskandInsuranceManagement Mohan Prakash, N.R. Vikas Publishing* ✓ *InsurancePrinciplesandPractice,22ndEdition Mishra M.N. & Mishra S.B. S. Chand Publishing* ✓ *Blanchard O. A. (2011). Social Media ROI: Managing and Measuring Social Media Efforts in Your Organization. Indianapolis: Que Publishing.* ✓ *Charlesworth, A. (2018). Digital Marketing: A Practical Approach. Abingdon: Routledge.* ✓ *Frost, R. D., Fox, A., & Strauss, J. (2018). E- Marketing. Abingdon: Routledge.* ✓ *Gupta, S. (2018). Digital Marketing. Delhi: Tata McGraw Hill Education.* ✓ *Kapoor, N. (2018).Fundamentals of E-Marketing. Delhi: Pinnacle India.* ✓ *Kotler, P., Kartajaya, H., &Setiawan, I. (2017). Digital Marketing: 4.0 Moving from Traditional to Digital. New Jersey: John Wiley & Sons.* ✓ *Ryan, D., & Calvin, J. (2016).Understanding Digital Marketing: Marketing Strategies for engaging the Digital Generation. London: Kogan page. Oxford: Oxford University Press.*

Paper	**5.5**
Course Title	**Fundamentals of Data Science and Data Management**
Paper Code	**SEC-II**
Paper Type	
Credit Point	**3**
Course Objectives	The course aims to • To understand the Basics of Data Science: • To explore Data Collection and Pre-processing Techniques: • To learn Fundamentals of Data Analysis: • To master Data Visualization and Communication: • To gain Proficiency in Data Management: • To develop Skills in Machine Learning and Predictive Modeling: • To apply Data Science Techniques to Real-World Problems:
Course Outcomes	After completion of the course, learners will be able to: • Define the key concepts and principles of data science and data management. • Collect, clean, and pre-process data for analysis using appropriate techniques. • Analyze data using statistical methods and interpret the results effectively. • Create informative and visually appealing data visualizations to communicate insights. • Demonstrate proficiency in managing data and ensuring its integrity, security, and privacy. • Apply machine learning algorithms to build predictive models and evaluate their performance. • Solve real-world problems using data science techniques and present findings in a clear and concise manner.
Course Outlines	**Unit 1: Foundations of Data Science** Introduction to Data Science, Definition and Scope of Data Science, Historical Overview and Evolution, Applications and Real-World Examples, Understanding Data, Types of Data: Structured, Semi-Structured, and Unstructured, Data Sources and Collection Methods, Data Quality and Pre-processing Techniques, Introduction to Programming for Data Science, Basics of Python Programming Language, Data Structures and Control Flow, Introduction to Libraries such as Pandas and NumPy for Data Manipulation, Statistics for Data Science.
	Unit 2: Data Analysis and Visualization Exploratory Data Analysis (EDA), Data Visualization Techniques: Matplotlib, Seaborn, Summary Statistics and Data Visualization, Identifying Patterns and Relationships in Data, Data Munging and Data Wrangling, Cleaning and Pre-processing Data, Handling Missing Values and Outliers, Data Transformation and Feature Engineering, Data Dashboards and Storytelling, Principles of Effective Data Visualization, Tools for Creating Interactive Dashboards: Tableau, Power BI, Communicating Insights from Data through Storytelling

	Unit 3: Machine Learning Fundamentals Introduction to Machine Learning, Supervised vs. Unsupervised Learning, Regression and Classification Techniques, Model Evaluation and Selection Criteria, Deep Learning Basics, Introduction to Neural Networks, Deep Learning Architectures: CNNs, RNNs, Applications of Deep Learning in Commerce and Business
	Unit 4: Advanced Topics in Data Science Big Data and Distributed Computing, Introduction to Big Data Technologies: Hadoop, Spark, Handling Large Volumes of Data: Batch vs. Real-Time Processing, Scalable Data Storage and Processing Solutions, Data Ethics and Privacy, Ethical Considerations in Data Collection and Usage, GDPR and Data Privacy Regulations, Strategies for Ensuring Data Security and Compliance

<table>
<tr><td>Paper</td><td>5.6</td></tr>
<tr><td>Course Title</td><td>Introduction to Artificial Intelligence</td></tr>
<tr><td>Paper Code</td><td>VAC</td></tr>
<tr><td>Paper Type</td><td></td></tr>
<tr><td>Credit Point</td><td>3</td></tr>
<tr><td>Teaching-Learning Methodology</td><td>Interactive lectures with multimedia demonstrations
Hands-on activities using no-code AI tools
Case studies and interdisciplinary discussions
Group activities, seminars, and presentations
Reflective assignments and mini-projects</td></tr>
<tr><td>Assessment Scheme</td><td>
<table>
<tr><th>Component</th><th>Weightage</th></tr>
<tr><td>Quizzes / MCQ Tests</td><td>10%</td></tr>
<tr><td>Assignments / Reflective Journals</td><td>10%</td></tr>
<tr><td>Class Participation & Project Work</td><td>30%</td></tr>
<tr><td>End Semester Examination</td><td>50%</td></tr>
<tr><td>Total</td><td>100%</td></tr>
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</td></tr>
<tr><td></td><td>Unit 1: Introduction to Artificial Intelligence
Intelligence and Artificial Intelligence, Intelligent Machines and Smart Systems, Definition and Scope of AI, History and Evolution of AI, AI Problem Solving and Search Techniques, Rule-Based Systems, Natural Language Processing and Computer Vision – introductory concepts.</td></tr>
<tr><td></td><td>Unit 2: Machine Learning Fundamentals
Introduction to Machine Learning and Data-Driven Intelligence, Types of Machine Learning: Supervised, Unsupervised and Reinforcement Learning, Concept of Training Data and Labelled Data, Regression and Classification, Clustering and Dimensionality Reduction, Neural Networks – basic idea, Decision Trees, k-NN and Deep Learning (introductory concepts), Model Training and Evaluation (accuracy, precision, recall – concept only), Real-life examples of Machine Learning applications.</td></tr>
<tr><td></td><td>Unit 3: AI Applications & Tools (Stream Specific)
Generic AI Applications: AI in education, healthcare, agriculture, governance, business analytics, finance, robotics, media and entertainment.
Hands-on Exposure to AI Tools: ChatGPT, Gemini, Copilot, Claude, Canva AI, Runway ML, Google Teachable Machine, DALL·E, Adobe Firefly and Pictory, Google AI Studio.
A) AI for Arts Stream: AI in literature, language translation, digital humanities, music composition, creative writing, journalism, media analytics and visual arts.
OR
B) AI for Science Stream: AI in climate modelling, healthcare diagnostics, bioinformatics, environmental monitoring, scientific data analysis and research automation.
OR</td></tr>
</table>

	C) AI for Commerce Stream: AI in marketing, customer analytics, accounting automation, fraud detection, e-commerce, stock prediction and financial services.
	Unit 4: Ethical, Social, Economic and Legal Implications of AI Ethical AI and Responsible AI Practices, Algorithmic Bias and Fairness, Privacy and Surveillance Issues, Misinformation and Deepfakes, Intellectual Property and AI-Generated Content, AI and Employment, Human-AI Collaboration, Digital Divide, Security Concerns, Existing Laws and Policies related to AI, Need for AI Governance and Sustainable AI Development.
	Unit 5: Group Mini Project & Presentation Students shall identify a real-life case study from their respective streams and: (a) design a conceptual AI-based solution, or (b) critically evaluate an existing AI system/tool. The project shall include problem identification, AI application analysis, ethical considerations, report preparation, and seminar presentation.
Suggested References	• *Russell, Stuart, and Peter Norvig. Artificial Intelligence: A Modern Approach. 4th Edition, Pearson.* • *Andreas C. Müller and Sarah Guido. Introduction to Machine Learning with Python. O'Reilly.* • *Selected online resources and AI tool documentation.*
Text Books	• *Saptarsi Goswami, Amit Kumar Das, and Amlan Chakrabarti. AI for Everyone: A Beginner's Handbook for Artificial Intelligence (AI). Pearson.* • *Sridhar Seshadri and Shreeram Iyer. AI for Everyone: A Common Man's Guide to Artificial Intelligence. Embassy Books.*