

DSEA07 – Accounting Analytics

Masters of Commerce
Semester IV
DSE – Elective Paper
Accounting Analytics

Course Type/ Course Code	Course Title	Lectures	Tutorials	Practical	Credit	Pre-requisites
DSEA07	Accounting Analytics	3	0	1	4	NIL

Objective: The course aims to provide learners with an in-depth understanding of accounting analytics, focusing on the use of data-driven techniques and tools like Power BI, R/Python to analyze financial statements, costing data, detect anomalies, and forecast performance.

Learning Outcomes: After completing the course, the student should be able to:

- Examine the conceptual framework of accounting analytics and its role in decision-making for companies and stakeholders.
- Apply statistical and other analytical tools and techniques to analyse and interpret financial and cost data effectively.
- Evaluate the applications of accounting analytics in auditing, cost management, and financial reporting.
- Assess the emerging trends, technologies, and challenges in accounting analytics

Contents:

Unit I (13 Hours)

Accounting analytics: concept and scope; data-driven business decision-making; role of analytics in financial and cost data; significance of accounting analytics for stakeholders; ethical considerations in data analysis; Data privacy and ethical challenges; earnings management.

Unit II (15 Hours)

Data types and sources in accounting; Big Data and its characteristics; data cleaning and formatting techniques; Ratio analysis and trend interpretation using financial statements - income statement, balance sheet, and cash flow statement; Measuring Key Performance Indicators; DuPont analysis; Data summarization and visualization-charts, graphs, plots, pivot tables; Methods for detecting data anomalies - Benford's Law and Altman's Z-score.

Unit III **(10 Hours)**

Statistical methods for forecasting revenue, expenses, cash flows; Regression analysis for forecasting in accounting; Financial modeling and analysis; Power BI for data visualization and financial reporting; R/Python programming for accounting applications; forecasting techniques for cost control; budget variance analysis; Linking non-financial metrics to financial performance

Unit IV **(7 Hours)**

Data analytics in auditing & fraud detection - Indian regulatory requirements (Ind AS); Risk assessment using data analytics; Role of Artificial Intelligence in analytics; ESG Analytics for sustainability reporting.

Practical Exercise: **(30 Hours)**

Students are required to:

- Create a Power BI dashboard to visualize a firm's financial statements' trends
- Perform DuPont analysis, time-series, regression analysis using excel to forecast costs or revenues or make internal control recommendations.
- Perform budget variance analysis using R/Python and export results as structured tables.
- Analyze panel data to study the impact of ESG metrics on financial performance using regression techniques.

Suggested Readings:

- Albright, S. C., & Winston, W. L. (2019). *Business Analytics: Data Analysis & Decision Making*. Cengage Learning.
- Anderson, D. R., Sweeney, D. J., & Williams, T. A. (2021). *Statistics for Business and Economics*. Cengage Learning.
- Camm, J. D., Cochran, J. J., Fry, M. J., & Ohlmann, J. W. (2020). *Business Analytics*. Cengage Learning.
- Delen, D., & Ram, S. (2018). *Business Analytics: A Data-Driven Decision-Making Approach*. Pearson Education.
- Jain, P., & Sharma, A. (2022). *Business Analytics for Indian Enterprises*. Sage Publications India.
- Richardson, V. J., Teeter, R. A., & Terrell, K. (2020). *Data Analytics for Accounting*. McGraw-Hill Education.
- Shmueli, G., Bruce, P. C., & Patel, N. R. (2019). *Data Mining for Business Analytics: Concepts, Techniques, and Applications*. Wiley.

Note: Latest edition of the readings may be used.