INSTITUTE OF AERONAUTICAL ENGINEERING
(Autonomous)
Dundigal - 500 043, Hyderabad, Telangana

COURSE CONTENT

FINANCIAL ANALYTICS LABORATORY								
IV Semester: MBA								
Course Code	**Category**	**Hours / Week**			**Credits**	**Maximum Marks**		
CMBE55	**Elective**	**L**	**T**	**P**	**C**	**CIA**	**SEE**	**Total**
		-	-	4	2	40	60	100
Contact Classes: 00	**Tutorial Classes: Nil**	**Practical Classes: 40**				**Total Classes: 40**		
Prerequisite: Financial Management								
SDGs Mapped: SDG 9 (Industry, Innovation and Infrastructure), SDG 8 (Decent Work & Economic Growth)								

I. COURSE OVERVIEW:

This laboratory course provides practical exposure to financial statement analysis, ratio computations, cash flow analysis, time value of money, risk-return evaluation, capital budgeting, and security valuation using MS Excel or similar spreadsheet tools. Students gain hands-on experience in applying theoretical concepts to real-world financial data, visualizing results, and making informed financial decisions. The lab emphasizes analytical thinking, modeling skills, and effective interpretation of financial information for corporate finance and investment purposes.

II.OBJECTIVES:

The students will try to learn:

I. How to organize and manage financial data using spreadsheet tools for analysis and reporting.
II. How to perform and interpret ratio analysis, cash flow analysis, and other financial statement techniques.
III. Time value of money concepts and risk-return analysis for decision-making.
IV. The capital budgeting projects and compute advanced investment metrics using spreadsheets.
V. The value equity and bonds using practical tools, including portfolio modeling, CAPM, and term structure modeling.

III. COURSE OUTCOMES:

At the end of the course students should be able to:

CO1 Use spreadsheets to organize, summarize, and visualize financial data for effective decision-making.
CO2 Compute and interpret financial ratios and cash flows to assess company performance.
CO3 Apply time value of money concepts to evaluate investment and financing decisions.
CO4 Conduct risk-return analysis and compute metrics such as Beta, standard deviation, and covariance.
CO5 Evaluate capital budgeting projects using NPV, IRR, ARR, payback period, decision trees, and advanced techniques.
CO6 Analyze and value equity and bonds, including portfolio mean-variance, CAPM, Security Market Line, bond duration, and term structure modeling.

IV. COURSE CONTENT:

EXPERIMENT – 1: INTRODUCTION TO FINANCIAL STATEMENTS ANALYSIS
MS - EXCEL/SPSS: Introduction, uses, functions and Excel for financial data organization.

EXPERIMENT – 2: RATIO ANALYSIS – I
Liquidity Ratios, Profitability Ratios, Solvency Ratios, Turnover Ratios: Computation and Interpretation using spreadsheets.

EXPERIMENT – 3: RATIO ANALYSIS – II & VALUATION
Valuation of Ratios, constructing ratio reports, visualization using Excel charts.

EXPERIMENT – 4: CASH FLOW ANALYSIS
Statement of Cash Flow: Classification of cash flows, computing net cash flow from operating, investing, and financing activities, reporting and interpretation in Excel.

EXPERIMENT – 5: TIME VALUE OF MONEY – I
Future Value calculations: Simple interest, Compound interest, Annuity, using Excel formulas and functions.

EXPERIMENT – 6: TIME VALUE OF MONEY – II
Present Value calculations: Discounted cash flow, Annuity, Equated Loan Amortization, Perpetuity, using spreadsheet functions.

EXPERIMENT – 7: RISK AND RETURN ANALYSIS
Holding period returns, Arithmetic Mean vs Geometric Mean, measuring risk: Standard Deviation, Coefficient of Variation, Beta, Covariance of stocks in Excel.

EXPERIMENT – 8: CAPITAL BUDGETING – I
Payback Period, Accounting Rate of Return (ARR), Net Present Value (NPV), Internal Rate of Return (IRR) computation using spreadsheets.

EXPERIMENT – 9: CAPITAL BUDGETING – II
Profitability Index, Decision Trees, Cash Flow estimation in Capital Budgeting, Cost of Capital calculation, Advanced techniques like Adjusted Present Value, Competing Project Risk using Excel.

EXPERIMENT – 10: EQUITY VALUATION – I
Portfolio Mean and Variance calculation, Capital Asset Pricing Model (CAPM), Covariance matrix construction, estimating Beta and Security Market Line using spreadsheets.

EXPERIMENT – 11: EQUITY VALUATION – II
Industry Analysis, Economic Analysis, Technical Analysis of stocks, applying real options in capital budgeting using Excel.

EXPERIMENT – 12: BOND VALUATION – I
Duration of bonds, Duration with uneven payments, Immunization strategies, spreadsheet modeling for bond valuation.

EXPERIMENT – 13: BOND VALUATION – II
Modeling the term structure of interest rates, computing expected bond return in single and multi-period frameworks, Semi-annual Transition Matrix in Excel.

EXPERIMENT – 14: ADVANCED BOND ANALYSIS
Computation of Bond Beta, integrated case study on bond and equity portfolio valuation, reporting insights using Excel dashboards.

V. SOFTWARE / SPREADSHEET TOOLS:

1. **Microsoft Excel:** https://www.microsoft.com/en-us/microsoft-365/excel
2. **Google Sheets:** https://www.google.com/sheets/about/
3. **R (for advanced portfolio & CAPM analysis):** https://www.r-project.org/
4. **Python (for financial modeling):** https://www.python.org/
5. **Investopedia Simulator (for practical stock/bond exercises):** https://www.investopedia.com/simulator/

VI. TEXTBOOKS:

1. Brigham, E. F., & Ehrhardt, M. C., *Financial Management: Theory & Practice*, Cengage, 15th edition, 2019.
2. Ross, S. A., Westerfield, R., & Jaffe, J., *Corporate Finance*, McGraw-Hill, 12th edition, 2019.
3. Pandey, I. M., *Financial Management*, Vikas Publishing, 12th edition, 2020.

VII. REFERENCE BOOKS:

1. Bodie, Z., Kane, A., & Marcus, A., *Investments*, McGraw-Hill, 12th edition, 2020.
2. Gitman, L. J., *Principles of Managerial Finance*, Pearson, 15th edition, 2019.
3. Damodaran, A., *Investment Valuation*, Wiley, 3rd edition, 2012.

VIII. WEB REFERENCES:

1. https://www.investopedia.com
2. https://www.finviz.com
3. https://www.macrotrends.net