KLH | GBS ONLINE
GLOBAL BUSINESS SCHOOL
BUILDING WORLD LEADERS
EXECUTIVE EDUCATION
COURSE CODE : OE0203
(DEEMED TO BE UNIVERSITY)

45 YEARS OF EDUCATIONAL LEADERSHIP | **BAND EXCELLENT** SELF-FINANCED UNIVERSITIES CATEGORY ARIIA ATAL RANKING OF INSTITU ATAL INNOVATION ACHIEVES | RECOGNISED AS **CATEGORY 1** UNIVERSITY BY UGC, STATUTORY BODY OF MHRD | **nirf 22** AMONG ALL UNIVERSITIES

CENTRE FOR EXCELLENCE IN FINANCIAL ANALYTICS & AI

CERTIFICATION PROGRAM IN ADVANCED FINANCIAL ANALYTICS

This program equips professionals with advanced analytical skills and financial modelling techniques to drive data-driven decision-making in finance. Participants learn to leverage cutting-edge tools and methodologies to analyse complex financial data, optimize investment strategies, and manage risks effectively.

WHO SHOULD ATTEND

This program is ideal for students, finance professionals, data analysts, risk managers, investment bankers, and business strategists who want to enhance their financial analytics capabilities. It's also well-suited for professionals aiming to leverage data science and quantitative techniques to improve financial decision-making and drive business growth.

THIS PROGRAM WILL HELP YOU TO

☑ Develop expertise in advanced financial data analysis and modelling

☑ Apply statistical and machine learning techniques to solve financial problems

☑ Enhance decision-making with data-driven insights in areas like risk management and investment

☑ Use cutting-edge tools and software for financial analytics

☑ Understand and interpret complex financial datasets for strategic advantage

☑ Build predictive models to forecast market trends and business performance

This program is part of the Certificate of Management Excellence. To earn the certificate, participants must complete selected topic-focused programs within two months.

WHAT YOU WILL LEARN

You will gain expertise in applying advanced statistical and machine learning techniques to financial data. The program covers financial modelling, risk assessment, portfolio optimization, and predictive analytics. You'll also learn to use industry-leading software tools to extract insights and support strategic financial decisions.

- Live sessions by experienced dedicated Faculty
- Hands on experience

Dr.M. Ramya Sree (Trainer)
MBA, PGDB, PGDAST, Finance Faculty, Klhgbs

She is currently associated with Koneru Lakshmaiah Education foundation as Assistant Professor. She is specialized in the areas of finance, business analytics with a vast experience of over 10 years. She has pursued Master's in Finance and HR and has done graduate diploma programs in Banking, Advanced Statistics and Business Analytics.

Date	**Classes will be Commencing from 7th August 2025**
Fees	**Rs.40, 000/-**
Duration	**30 Sessions (Monday to Friday)**
Venue	**GBS Campus, Kondapur, Hyderabad**
Mode	**Online (Monday to Friday), 4 Days Campus immersion**
Timings:	**6:00pm to 9:00pm**
Eligibility	**18+ years**
Benefits	**Certificate from GBS, GBS Alumni Status**

ADVANCED FINANCIAL ANALYTICS PROGRAM

DAY 1 **INTRODUCTION**	• Overview of Program & Modules • Assessment Criteria • Importance of Financial Analytics • R vs Python: Tool Selection
DAY 2 **R BASICS**	• Installing R & Rstudio • R Syntax and Environment • Data Types: Vectors, Lists, Matrices, Data Frames • Operators and Functions
DAY 3 **DATA IMPORT &** **CLEANING**	• Importing CSV/Excel/JSON Files • Handling Missing Values (`na.omit`, `is.na`) • Outlier Detection (Z-score, IQR) • Data Cleaning Best Practices
DAY 4 **BASIC STATISTICS**	• Mean, Median, Mode • Variance, Standard Deviation • Skewness & Kurtosis • Use of `summary()`, `describe()`
DAY 5 **STATISTICAL INFERENCE**	• Concepts of Population & Sample • Confidence Intervals • t-test, z-test, chi-square test • p-values and Significance
DAY 6 **FINANCIAL DATA**	• Financial Data Types: Prices, Returns, Volumes • Sources of Financial Data • Time Indexing in R • Summary Statistics for Finance

DAY 7 **TIME VALUE OF MONEY**	• Present & Future Value • Annuities & Perpetuities • Bond Pricing Formula • Stock Valuation using Dividend Models
DAY 8 **CAPITAL STRUCTURE**	• Debt vs Equity Financing • Modigliani-Miller Theorem • Optimal Capital Structure • Financial Leverage
DAY 9 **CAPITAL BUDGETING**	• NPV, IRR, Payback Period • Profitability Index • Mutually Exclusive Projects • R Implementation
DAY 10 **RISK & RETURN**	• Expected Return • Standard Deviation and Variance • Beta & CAPM • Sharpe and Treynor Ratios
DAY 11 **COST OF CAPITAL & FSA**	• WACC Calculation • Cost of Equity (CAPM) • Cost of Debt • Introduction to Financial Statement Analysis
DAY 12 **CASE STUDY**	• Real-World Finance Case • Excel + R Based Analysis • Discussion & Group Activity
DAY 13 **FUNDAMENTAL ANALYSIS**	• Overview of FA • Economic, Industry & Company Analysis • Intrinsic Value Estimation
DAY 14 **FINANCIAL STATEMENTS**	• P&L, Balance Sheet, Cash Flow • Structure and Key Components • R Reading Functions (`readxl`, `tidyquant`)
DAY 15 **RATIO ANALYSIS IN R**	• Liquidity, Profitability, Solvency Ratios • DuPont Analysis • Visualization with `ggplot2`

DAY 16 **TECHNICAL ANALYSIS**	• Assumptions of TA • Price Trends, Volumes • Moving Averages & Indicators • Chart Patterns
DAY 17 **CHARTS IN R**	• Line, Bar, OHLC, Candlestick Charts • `quantmod` & `TTR` packages • Plotting with `dygraphs` and `plotly`
DAY 18 **ASSESSMENT I**	• Online MCQ + Practical • Data Cleaning + Visualization Task • Conceptual Questions
DAY 19 **CANDLESTICK CHARTS**	• Doji, Hammer, Engulfing Patterns • Real-Time Stock Data (`quantmod`) • Strategy Backtesting
DAY 20 **FINANCIAL MARKETS**	• Market Types (Primary, Secondary) • Equity vs Debt Markets • Role of Investment Banks
DAY 21 **STOCK VALUATION**	• DDM and Relative Valuation • PE, PB Ratios • Intrinsic Value in R
DAY 22 **BOND VALUATION**	• Coupon Bonds vs Zero-Coupon • Yield to Maturity (YTM) • Duration & Convexity in R
DAY 23 **DERIVATIVES VALUATION**	• Forwards, Futures, Options • Payoff Diagrams • Black-Scholes in R
DAY 24 **REGRESSION**	• Simple and Multiple Linear Regression • Logistic Regression for Classification • `lm()` and `glm()` in R

DAY 25 **TIME SERIES BASICS**	• Components of TS: Trend, Seasonality • TS Object Creation • Visualization using `ts`, `xts`, `zoo`
DAY 26 **STATIONARITY**	• Definition and Importance • ADF Test, KPSS Test • Differencing and Detrending
DAY 27 **AR & MA MODELS**	• AR(p) and MA(q) Models • Model Identification (ACF, PACF) • Parameter Estimation
DAY 28 **ARIMA MODELS**	• Box-Jenkins Methodology • ARIMA Model Building • Forecasting with `forecast` package
DAY 29 **AI/ML IN FINANCE**	• Introduction to ML Models • Linear Models, Random Forest, XGBoost • Use Cases: Credit Scoring, Algo Trading
DAY 30 **ASSESSMENT II**	• Time Series Forecasting Task • Financial Dataset Analysis • Conceptual + Practical Exam

A learning experience that energizes aspiring and established change makers.

BREAK THROUGH LEARNING

Stimulating classes led by faculty at the fore front of their fields. Topics that will define the future of business. Discussions that transform perspectives and ways of thinking. Access to the brightest business minds on the planet. In short, learning experiences that only Global Business School can provide.

SUPPORT

Premium amenities and purpose-built accommodations for all participants on the GBS campus. Astonishingly attentive staff. Classrooms designed to foster collaboration. Virtual, in-person, and blended learning formats tailored to your terms. Here, every detail is carefully calibrated to nurture your growth.

POWERFUL CONNECTIONS

Our programs strengthen organizations and individuals by deepening relationships and fostering new ones. Participants leave with lifelong friends, new potential business partners, and a powerful, globe-spanning network of fellow change makers

INTENTIONAL DIVERSITY

We curate a truly diverse classroom for good reason. Exposure to different perspectives sharpens our thinking and better equips us to lead in today's business landscape. Expect to learn with— and from—peers who come from around the world, representing a variety of industries, and all walks of life.

ADMISSIONS

Candidates are admitted on a rolling, space-available basis and typically receive their admissions decisions within four to six weeks. Select programs have application deadlines, as noted on the program page of our website. For all programs, early application is strongly encouraged