

Financial and Social Security Data Analysis Using Actuarial Mathematics

Pulau Ujong (Singapore)

10 - 14 November 2025

UK Training

PARTNER



Financial and Social Security Data Analysis Using Actuarial Mathematics

Code: FA28 From: 10 - 14 November 2025 City: Pulau Ujong (Singapore) Fees: 4700 Pound

Introduction

In today's era of data analysis and data-driven decision-making, the significance of actuarial mathematics has never been greater. This comprehensive actuarial mathematics course is designed to equip professionals with advanced methodologies and quantitative tools for financial data analysis and social security office evaluations. Participants will gain a deep understanding of how to apply financial and actuarial mathematics in assessing future liabilities and developing robust models that support sustainable social protection systems.

Whether you're working with pension funds, insurance programs, or national social security plans, this data analysis training empowers you to apply advanced data analysis methods and software tools to perform high-impact forecasting, planning, and risk evaluation. Throughout the course, you will master the entire data analysis process and develop the data analysis skills needed to inform policy and strategic decisions in dynamic financial environments.

Course Objectives

By the end of this program, participants will be able to:

- Understand the definition of actuarial mathematics and its role in business data analysis and social security planning.
- Apply mathematical and statistical models to evaluate pension, insurance, and social protection systems.
- Perform financial data analysis and finance data analysis using tools like Excel, R, and Python.
- Build and interpret actuarial models for forecasting and risk assessment.
- Integrate data analysis methodology into designing and enhancing sustainable financial and social systems.
- Conduct effective data analysis projects that support evidence-based decision-making.

Course Outlines

Day 1: Fundamentals of Actuarial Science and Social Security

- Introduction to actuarial mathematics: concepts, principles, and applications.
- Overview of financial and actuarial mathematics for financial risk evaluation.
- Time value of money and discounting techniques.
- Types of social insurance and pension schemes.
- Key indicators and evaluation metrics in social security office programs.

Day 2: Demographic and Financial Data Analysis

- Introduction to what is a data analysis and different types of data analysis.
- Life tables, mortality rates, and demographic projections.
- Sources and structures of financial and social data.
- Data cleaning and preprocessing using Excel and R.

The logo for UK Training Partner, featuring the text 'UK Training' in a small font above the word 'PARTNER' in a large, bold, black font. The background of the logo shows a chessboard with several chess pieces, including a king, a queen, and a pawn, in gold and silver.

- Case Study: National Pension Scheme data review and business data analysis.

Day 3: Actuarial Models for Financial Planning

- Survival models and present value calculations.
- Estimating future liabilities for pensions and social benefits.
- Probabilistic models for risk assessment in finance data analysis.
- Introduction to pension funding methods.
- Scenario planning and stress testing for robust decision-making.

Day 4: Tools and Software for Actuarial Data Analysis

- Using Excel for financial data analysis and actuarial calculations.
- Introduction to R and Python for data modeling and visualization.
- Dashboarding and advanced reporting of financial data.
- Building forecast models to support long-term sustainability.
- Case Study: Actuarial valuation of a pension fund and policy impact.

Day 5: Applications, Policy Impact & Capstone Project

- Analyzing policy implications of actuarial findings in social security systems.
- Designing resilient and sustainable social security structures.
- Capstone Project: Presenting data-driven actuarial solutions for real-world challenges.
- Peer evaluation, expert feedback, and practical improvement strategies.
- Course wrap-up, key insights, and certificate presentation.

Why Attend This Course: Wins & Losses!

- Gain hands-on experience in financial data analysis and real-world applications of actuarial methods.
- Learn to develop advanced data analysis projects that drive evidence-based decisions.
- Acquire critical data analysis skills to design, evaluate, and improve financial and social security systems.
- Understand what is actuarial mathematics and its applications in risk evaluation and future liabilities.
- Master the use of software tools like Excel, R, and Python to support data analysis methodology.
- Position yourself as a strategic analyst in the fields of finance, insurance, and social security reform.
- Enhance your ability to make informed, data-driven decisions that promote long-term sustainability.

Conclusion

This five-day program provides a powerful blend of theory, practical application, and hands-on exercises in actuarial mathematics and data analysis. You will leave with a strong foundation in applying financial and actuarial mathematics to real-world scenarios, informed by global best practices and current policy considerations.

Whether you are a financial specialist, policy advisor, or data analyst, this course will empower you to make a real impact in financial data analysis and social protection reform. Be ready to lead your organization's journey towards more sustainable, data-driven decision-making.

A graphic of a chessboard with several pawns. In the foreground, a large gold king piece stands prominently. Behind it, several silver and gold pawns are positioned on different squares. The background features concentric circles, suggesting a strategic or analytical theme.

UK Training
PARTNER

Blackbird Training Cities

Europe



Malaga (Spain)



Sarajevo (Bosnia and Herzegovina)



Oporto (Portugal)



Glasgow (Scotland)



Edinburgh (UK)



Oslo (Norway)



Annecy (France)



Bordeaux (France)



Copenhagen (Denmark)



Birmingham (UK)



Lyon (France)



Moscow (Russia)



Stockholm (Sweden)



Podgorica (Montenegro)



Batumi (Georgia)



Salzburg (Austria)



London (UK)



Istanbul (Turkey)



Amsterdam



Düsseldorf (Germany)



Paris (France)



Athens (Greece)



Barcelona (Spain)



Munich (Germany)



Geneva (Switzerland)



Prague (Czech)



Vienna (Austria)



Rome (Italy)



Brussels (Belgium)



Madrid (Spain)



Berlin (Germany)



Lisbon (Portugal)



Zurich (Switzerland)



Manchester (UK)



Milan (Italy)



Blackbird Training Cities

USA & Canada



Los Angeles (USA)



Orlando, Florida (USA)



Online



Phoenix, Arizona (USA)



Houston, Texas (USA)



Boston, MA (USA)



Washington (USA)



Miami, Florida (USA)



New York City (USA)



Seattle, Washington (USA)



Washington DC (USA)



In House



Jersey, New Jersey (USA)



Toronto (Canada)

ASIA



Baku (Azerbaijan)
(Thailand)



Maldives (Maldives)



Doha (Qatar)



Manila (Philippines)



Bali (Indonesia)



Bangkok



Beijing (China)



Singapore (Singapore)



Sydney



Tokyo (Japan)



Jeddah (KSA)



Riyadh (KSA)



Melbourne (Australia)
Korea



Phuket (Thailand)



Dubai (UAE)



Kuala Lumpur (Malaysia)



Kuwait City (Kuwait)



Seoul (South)



Pulau Ujong (Singapore)



Irbid (Jordan)



Jakarta (Indonesia)



Amman (Jordan)



Beirut

UK Training
PARTNER

Blackbird Training Cities

AFRICA



Kigali (Rwanda)



Cape Town (South Africa)



Accra (Ghana)



Lagos (Nigeria)



Marrakesh (Morocco)



Nairobi (Kenya)



Zanzibar (Tanzania)



Tangier (Morocco)



Cairo (Egypt)



Sharm El-Sheikh (Egypt)



Casablanca (Morocco)



Tunis (Tunisia)



Blackbird Training Clients

 MANNAI CORPORATION MANNAI Trading Company WLL, Qatar	 GAC UNE FILIALE D' EGA Alumina Corporation Guinea	 Booking.com Booking.com Netherlands	 OXFAM Oxfam GB International Organization, Yemen	 Capital Markets Authority Kuwait
 Waltersmith Waltersmith Petroman Oil Limited Nigeria	 QNB Qatar National Bank (QNB), Qatar	 Qatar Foundation Qatar	 AFRICAN UNION ADVISORY BOARD ON CORRUPTION Tanzania	 KFAS KFAS Kuwait
 Reserve Bank of Malawi Malawi	 Central Bank of Nigeria Nigeria	 Ministry of Interior Kingdom of Saudi Arabia KSA	 Mabruk Oil Company Libya	 Saudi Electricity Company KSA
 BPKH Badan Pengelola Keuangan Haji BADAN PENGELOLA KEUANGAN Haji, Indonesia	 NATO Italy Italy	 ENI ENI CORPORATE UNIVERSITY, Italy	 GULF BANK Gulf Bank Kuwait	 General Organization for Social Insurance KSA
 Defence Space Administration Nigeria	 National Industries Group (Holding) Kuwait	 Hamad Medical Corporation Qatar	 USAID Pakistan	 STC STC Solutions, KSA
 North Oil Company North Oil company,	 EKO Electricity EKO Electricity	 OMAN BROADBAND Oman Broadband	 UNITED NATIONS UN.	 Authority for Electricity Regulation, Oman Authority for

UK Training
PARTNER

Blackbird Training Categories

Management & Admin

Entertainment & Leisure
Professional Skills
Finance, Accounting, Budgeting
Media & Public Relations
Project Management
Human Resources
Audit & Quality Assurance
Marketing, Sales, Customer Service
Secretary & Admin
Supply Chain & Logistics
Management & Leadership
Agile and Elevation

Technical Courses

Artificial Intelligence (AI)
Hospital Management
Public Sector
Special Workshops
Oil & Gas Engineering
Telecom Engineering
IT & IT Engineering
Health & Safety
Law and Contract Management
Customs & Safety
Aviation
C-Suite Training



 International House 185 Tower Bridge
Road London SE1 2UF United Kingdom

 +44 7401 1773 35
+44 7480 775526

 Sales@blackbird-training.com

 www.blackbird-training.com

UK Training
PARTNER

