

# Financial and Social Security Data Analysis Using Actuarial Mathematics

*Online*

*16 - 20 August 2026*

UK Training

# PARTNER



# Financial and Social Security Data Analysis Using Actuarial Mathematics

Code: FA28 From: 16 - 20 August 2026 City: Online Fees: 1700 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 chess pieces (king, queen, rook, knight, and pawns) in gold and silver. The text 'UK Training PARTNER' is overlaid on the board.

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)



Florence (Italy)



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)  
(Kuwait)



Phuket (Thailand)



Shanghai (China)



Dubai (UAE)



Kuala Lumpur (Malaysia)



Kuwait City



Seoul (South Korea)



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

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

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**

