
Actuarial Analysis for Executives Training

Course: Pensions, Insurance and Risk Costing

10 – 14 May 2027
Tokyo





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Ref: 630_31898 Date: 10 – 14 May 2027 Location: Tokyo Fees: 6900 GBP

Programme Summary

Actuarial analysis for executives is the subject of this one-week training course for directors, policy leads and heads of pensions, insurance and finance, ending in a costed decision brief for one live exposure. Leaders sign off funding rates, premiums and reserves on actuarial reports that they are rarely trained to question. The programme moves from the actuarial control cycle to assumptions, valuation, pricing and scenario testing, applied to an exposure the participant brings. Mars Training Centre UK delivers this programme on actuarial analysis to mixed-organisation cohorts.

The Business Case

Pension funds, insurers and public funds carry promises that last for decades, so small errors in assumptions grow into large funding gaps. Executives who can read an actuarial report and ask for the right sensitivities make sounder decisions on contributions, benefits and pricing.

- Funding Gap: Narrows as assumptions are challenged before contribution and benefit decisions are made.
- Pricing Adequacy: Improves as claims cost drivers and margins are examined against expected experience.
- Decision Delay: Falls as leaders know which questions to put to the actuary and when.

Principles and Evidence Base

- Actuarial Control Cycle: The loop of specifying the problem, developing the model and monitoring results, used in Session 1 to frame every decision.
- ISAP 1 General Actuarial Practice: The International Actuarial Association standard that sets what a sound actuarial report should disclose, used in Session 2 as a reading checklist.
- ISAP 2 Financial Analysis of Social Security Programmes: The International Actuarial Association standard applied in Session 4 to the costing of social insurance and pension schemes.
- ISSA Guideline on Compliance with Actuarial Standards: The guidance on following actuarial standards in social security, used in Session 5 to review the evidence behind a decision.



Intended Participants

- Directors and board members who approve funding, pricing and reserving decisions based on actuarial advice.
- Pension and social insurance leaders who set contribution rates and benefit rules.
- Insurance executives who sign off premium bases, reserves and product changes.
- Finance heads who carry long-term liabilities in plans and budgets.
- Policy and planning officials who cost reforms that change who pays and who receives.

Typical functions include pensions, insurance, public finance and corporate treasury.

Learning Outcomes

1. Participants will be able to evaluate an actuarial report for scope, data quality, method and disclosure.
2. Participants will be able to diagnose which assumptions drive a result, including mortality, discount rate and inflation.
3. Participants will be able to construct a sensitivity and scenario test for a funding or pricing question.
4. Participants will be able to prioritise the questions to raise with an actuary before a decision.
5. Participants will be able to justify a funding, reserving or pricing recommendation to a board.
6. Participants will be able to compare policy options by their long-term cost and who bears it.

Programme Structure

Day 1: Actuarial Analysis and the Control Cycle

What does an actuary do, and where does a leader step in?

- Actuarial Control Cycle
- Decision Question Framing
- Time Value of Money
- Risk and Uncertainty Language
- Role Map of Actuary and Executive

Day 2: Reading Actuarial Reports and Data

Can the report be trusted for the decision it supports?

- Report Disclosure Checklist
- Data Quality Review
- Method Choice Review
- Peer Review Requests
- Red Flag Register



Day 3: Assumptions, Mortality and Longevity

Which assumptions move the answer most?

- Mortality Tables and Improvement
- Discount Rate Selection
- Inflation and Salary Growth
- Claims Frequency and Severity
- Assumption Sensitivity Ranking

Day 4: Pension, Insurance and Social Insurance Costing

How are long-term promises priced and funded?

- Pension Valuation Basics
- Insurance Premium and Margin Build-Up
- Reserving Methods
- Social Insurance Projection
- Contribution Rate Setting

Day 5: Scenario Testing and the Decision Brief

Do the findings support one recommendation the board can act on?

- Applying the Session 2 Disclosure Checklist
- Testing the Session 3 Sensitivity Ranking
- Reviewing the Session 4 Contribution Rate Setting
- Stress and Scenario Testing
- Completing the Actuarial Decision Brief

Methodology

The programme uses a data workshop method built on a shared case of a pension scheme and an insurance book with ageing members and rising claims costs. Participants test assumptions on the case with prepared spreadsheets, then repeat the steps on their own exposure.

- Suggested activity: Changing the discount rate and mortality basis to see how a funding gap moves.
- Suggested activity: Marking up a sample report against a disclosure checklist.
- Suggested activity: Preparing five questions for an actuary ahead of a board paper.



Capstone Output

Each participant completes an actuarial decision brief for one live exposure. It holds the decision question, a report review, a ranked assumption list, sensitivity and scenario results, a costing of the options and a recommendation. The brief is used at work to guide the discussion with the actuary and to inform the board paper.

Frequently Asked Questions

Is actuarial analysis training suitable for executives without a mathematical background?

Yes. Actuarial analysis is taught through cases, spreadsheets and plain questions, so the programme assumes experience of funding, pricing or policy decisions but no actuarial qualification or advanced mathematics.

Which standards does actuarial analysis training rest on?

Actuarial analysis training rests on the actuarial control cycle, ISAP 1 General Actuarial Practice, ISAP 2 Financial Analysis of Social Security Programmes and the ISSA guideline on compliance with actuarial standards.

How is the brief from actuarial analysis training used at work?

You use the actuarial decision brief to guide your discussion with the actuary, to challenge assumptions in a report and to support the recommendation in a board paper.

How does actuarial analysis differ from financial modelling training?

Actuarial analysis centres on long-term uncertain events such as longevity and claims, while financial modelling training centres on building forecasts and valuation models for business cases.