Actuaries Institute.

Fellowship Program

Life Insurance Applications

Subject Syllabus 2026

1. Overview and aim

The aim of this subject is to provide students with an understanding of how a life insurance company operates in Australia and the legal, regulatory and professional framework that governs the industry.

There are four cycles where actuaries have a core function when advising the business: product management; valuations; risk management; and business planning. In each cycle the actuary is required to understand the problem, develop a solution and monitor outcomes as well as have a clear picture of the external environment and act professionally. This subject aims to equip students with the tools to perform these functions for an Australian life insurance company.

2. Student outcomes

After successful completion of this subject, students will be able to:

- consider the commercial, legislative, regulatory and professional environments that apply to Australian life insurers;
- apply the actuarial control cycle to product management, valuations, risk management and business planning for business sold by life insurers operating in Australia;
- apply prudential and professional requirements to actuarial practice within a life insurer operating in Australia;
- prepare components of key inputs used in, or outputs produced, as part of product management, valuations, risk management or business planning for life insurers working in Australia;
- evaluate components of key outcomes from product management, valuations, risk management or business planning processes for life insurers operating in Australia; and
- explain how product management, valuations, risk management and business planning processes interact.

3. Prerequisites

Students will have studied (but not necessarily passed) the Valuation and Product Development subjects. It is assumed students have studied (but not necessarily passed) the Foundation and Actuary program subjects or their equivalents.

4. Assessment skill levels

Assessment of this subject will test the following skill levels in the proportions shown in the brackets:

- Simple Application (20%): Demonstration of a detailed knowledge and understanding of the topic.
- Application (50%): Demonstration of an ability to apply the principles underlying the topic within a given context.
- Higher Order (30%): Demonstration of an ability to perform deeper analysis and assessment of situations, including forming judgements, considering different points of view, comparing and contrasting situations, suggesting possible solutions and actions, and making recommendations.

5. Assessment method

The subject is assessed via a three-hour (plus 15-minute reading time) open-book examination, worth 80%, and an assignment, worth 20%.

6. Learning objectives

1 Consider the components of and evaluate trends in the Australian life insurance market. (5%)

1.1 Consider the impact of trends and recent issues.

1.2 Identify the major players.

1.3 Describe the range of organisational structures.

1.4 Assess the types of products sold and their features, including profitability.

1.5 Explain how products are distributed.

1.6 Consider how products address the needs and best interests of consumers.

1.7 Assess industry data that is publicly available.

2 Consider the legislative environment for life insurance in Australia and how it relates to actuarial practice. (5%)

2.1 Consider the key requirements of the Life Insurance Act and its application to actuarial practice.

2.2 Explain the impact of other legislation that is relevant to life insurance.

2.3 Explain how taxation in Australia impacts product design; pricing and profitability; valuations; and capital for life insurance products.

3 Consider the role of the regulators supervising life insurers and how their operations affect actuarial practice. (10%)

3.1 Apply APRA's standards and guidance that are relevant to life insurance practice.

3.2 Explain ASIC's regulatory guides that are relevant to actuarial practice within a life company.

3.3 Consider the implications of investigations or reviews undertaken by the regulators.

4 Consider the various roles and responsibilities of the actuary within a life insurance company. (5%)

4.1 Consider the roles, requirements, and legal and professional responsibilities of the Appointed Actuary.

4.2 Apply the Actuaries Institute's professional standards and guidance that are relevant to life insurance practice.

4.3 Describe the roles and responsibilities of the Auditor and/or Actuarial Auditor.

5 Apply the actuarial control cycle to product management to prepare components of key inputs and outputs and to evaluate the outcomes from this process. (25%)

5.1 Describe the key stakeholders involved in the product management cycle and their role.

5.2 Evaluate the assumptions used for pricing life insurance products.

5.3 Evaluate the methodologies used for pricing life insurance products.

5.4 Apply the Actuarial Advice Framework in accordance with prudential and professional requirements.

5.5 Produce sensitivity testing and/or scenario analysis to evaluate the adequacy of premium rates.

5.6 Evaluate the implications of underwriting and claims management practices as they apply to different products and distribution methods.

5.7 Evaluate commercially viable life insurance products and features to meet customer needs.

5.8 Produce premium rates for the following products sold through the various distribution channels:

5.8.1 Lump sum insurance and individual disability income insurance (IDII) sold via the retail distribution channel or the direct distribution channel;

5.8.2 Group term, group total and permanent disability and group salary continuance;

5.8.3 Individual lifetime annuities; and

5.8.4 Group annuities and other pooled longevity products.

5.9 Consider the implications of profit sharing, unit-linking, participating, and discretionary features in product design.

5.10 Apply the principle of sustainability to product design and pricing with reference to expectations set by the regulator.

5.11 Explain the reinsurance tender process and the factors that influence decision making when entering into reinsurance arrangements.

5.12 Explain how data science techniques and AI tools can be used in the product management process.

5.13 Apply ongoing monitoring and management of life insurance products as part of a control cycle framework.

5.14 Explain the role of the product management cycle in valuations, risk management and business planning.

6 Apply the actuarial control cycle to valuation to prepare components of key inputs and outputs and to evaluate the outcomes from this process. (30%)

6.1 Describe the key stakeholders involved in the valuation cycle and their role.

6.2 Apply principles of experience analysis to setting assumptions for the valuation of policy liabilities.

6.3 Produce a valuation of policy liabilities in accordance with accounting, prudential and professional requirements.

6.3.1 Identify the three methodologies for calculating policy liabilities under AASB-17 and the factors that impact the choice of methodology.

6.3.2 Produce a valuation of policy liabilities using either the General Measurement Model (GMM) or Premium Allocation Approach (PAA), where appropriate, for the following products:-

- individual lump sum insurance;
- individual disability income insurance;
- group insurance; and
- lifetime annuities.

6.3.3 Outline the criteria for using the Variable Fee Approach (VFA) methodology for valuing contracts with participating features.

6.3.4 Identify business out of scope of AASB-17 and the alternative accounting standards that apply to this business.

6.4 Produce a calculation of regulatory capital, including the capital base and prescribed capital amount, in accordance with prudential requirements.

6.4.1 Explain how the capital base in calculated for statutory funds and the shareholder fund with reference to the relevant prudential standards.

6.4.2 Consider how each component of the prescribed capital amount is calculated by applying the relevant prudential standards.

6.4.3 Evaluate how reinsurance impacts components of the prescribed capital amount.

6.4.4 Produce a calculation of components of regulatory capital for the following products:-

- individual lump sum insurance;
- individual disability income insurance;
- group insurance; and
- lifetime annuities.

6.5 Construct a valuation of reinsurance assets in accordance with accounting, prudential and professional requirements.

6.6 Apply the principles of embedded or appraisal values and analysis of movement to an Australian life insurer.

6.7 Examine the financial statements of an Australian life insurer prepared in accordance with accounting or prudential requirements.

6.8 Explain how APRA's Life Reporting Forms (LRF) are prepared with reference to relevant prudential requirements.

6.9 Apply the principles of analysis of profit to assist in the preparation and understanding of financial statements.

6.10 Explain how an Actuarial Valuation Report (AVR) is prepared in accordance with prudential and professional requirements.

6.11 Explain how data science techniques and AI tools can be used in the valuation process.

6.12 Explain the role of the valuations cycle in product management, risk management and business planning.

7 Apply the actuarial control cycle to risk management to prepare components of key inputs and outputs and to evaluate the outcomes from this process. (10%)

7.1 Describe the key stakeholders involved in risk management and their role.

7.2 Apply principles of a risk management framework with reference to relevant prudential and professional requirements.

7.3 Suggest methods of allocating capital to business lines.

7.4 Consider the Internal Capital Adequacy Assessment Process in accordance with reference to relevant prudential and professional requirements.

7.5 Prepare components of a Financial Condition Report in accordance with prudential and professional requirements.

7.6 Explain the role of the risk management cycle in product management, valuations and business planning.

8 Apply the actuarial control cycle to business planning to prepare components of key inputs and outputs and to evaluate the outcomes from this process. (10%)

8.1 Describe the key stakeholders involved in business planning and their role.

8.2 Consider the business planning process in the context of relevant prudential requirements.

8.3 Explain the role of the business planning cycle in product management, valuations and risk management.

9 Apply data science solutions to business problems within a life insurance company. (XX%)

9.1 Apply the principles of Natural Language Processing (NLP) and Generative AI (Gen AI) Models.

9.1.1 Explain the principles of NLP and how Large Language Models (LLMs) function.

9.1.2 Evaluate use cases of Gen AI.

9.1.3 Assess the limitations and risks of using Gen AI.

9.2 Apply data privacy principles when handling personally identifiable information (PII).

9.2.1 Describe key data privacy regulations relevant to life insurance.

9.2.2 Apply privacy-preserving techniques when handling PII.

9.2.3 Evaluate the ethical and legal implications of data sharing, storage, and anonymisation.

9.3 Apply ethical principles to data science work.

9.3.1 Identify ethical challenges including algorithmic bias and misuse of data.

9.3.2 Propose strategies to uphold professional integrity when using advanced analytics and AI in decision-making.

9.4 Apply principles of data architecture to design efficient, scalable life insurance actuarial data systems.

9.4.1 Describe the key components of data architecture.

9.4.2 Describe the key stakeholders involved in data science work and their role.

9.4.3 Evaluate life insurance actuarial data workflows.

9.4.4 Propose strategies and systems to support life insurance actuarial analysis and reporting.

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About the Actuaries Institute and Profession

As the peak professional body for actuaries in Australia, the Actuaries Institute represents the profession to government, business and the community. Our members work in a wide range of fields including insurance, superannuation and retirement incomes, enterprise risk management, data analytics and AI, climate change and sustainability, and government services.

Actuaries use data for good by harnessing the evidence to navigate into the future and make a positive impact. They think deeply about the issue at hand, whether it's advising on commercial strategy, influencing policy, or designing new products. Actuaries are adept at balancing interests of stakeholders, clients and communities. They're called upon to give insight on complex problems and they'll look at the full picture. Actuaries analyse the data and model scenarios to form robust and outcome-centred advice.

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