

# Subject SP1

## 2025 Study Guide

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## 1 Introduction

This Study Guide has been created to help you navigate your way through Subject SP1. It contains useful information you will need before starting to study Subject SP1 for the 2025 exams. You may also find it useful to refer to throughout your studies.

Further information on study skills can be found on our website at [ActEd.co.uk](https://www.acted.co.uk).

**Please read this Study Guide carefully before reading the Course Notes**, even if you have studied for some actuarial exams before.

### Before you start

When studying for the Institute and Faculty of Actuaries' exams, you may need:

- a copy of the **Formulae and Tables for Examinations of the Institute and Faculty of Actuaries, 2nd Edition (2002)** – these are referred to simply as the *Tables*
- a **scientific calculator** and/or **software package** to help with calculations.

The *Tables* are available from the Institute and Faculty of Actuaries' eShop. Please visit [actuaries.org.uk](https://www.actuaries.org.uk).

## 2 Subject sequencing and contents

### 2.1 Links to other subjects

#### Fellowship Qualification

There are two subjects covering health and care, Health and Care Specialist Principles (Subject SP1) and Health and Care Specialist Advanced (Subject SA1). Each subject develops a specific set of skills and knowledge needed by actuaries working in, or who wish to work in, health and care.

Subject SP1 provides an introduction to the main principles and knowledge required in health and care insurance, and how these principles can be applied in simple scenarios.

Subject SA1 builds upon the skills and knowledge covered in Subject SP1, applied to more complex scenarios. In particular, it considers in much more detail the environment in which a health and care insurance company operates, which will include health and care markets, regulation, legislation, taxation, financial management, monitoring and strategies, and State health and care benefit provision.

### 2.2 Subject contents

There are six parts to the Subject SP1 course. The parts cover related topics and are broken down into chapters. At the end of each part there is an assignment testing the material from that part.

The following table shows how the parts and chapters relate to each other. The final column shows how the chapters relate to the days of the regular tutorials. This table should help you plan your progress across the study session.

| Part | Chapter | Title  | No of pages | X Assignment | Tutorial – 3 days |
|------|---------|--|-------------|--------------|-------------------|
| 0    | 0       | Introduction to health and care                                  | 26          |              |                   |
| 1    | 1       | Income protection insurance                                      | 36          | X1           | 1                 |
|      | 2       | Critical illness insurance                                       | 25          |              |                   |
|      | 3       | Long-term care insurance   | 36          |              |                   |
|      | 4       | Private medical insurance & related products                     | 26          |              |                   |
|      | 5       | H&C insurance products – group products                          | 22          |              |                   |
|      | 6       | Product design and stakeholder interests (1)                     | 39          |              |                   |
| 2    | 7       | Product design and stakeholder interests (2)                     | 36          | X2           |                   |
|      | 8       | Distribution channels  | 37          |              |                   |
|      | 9       | The general business environment                                 | 25          |              |                   |
|      | 10      | State healthcare provision                                       | 28          |              |                   |
|      | 11      | Modelling  | 43          |              |                   |
| 3    | 12      | Data   | 26          | X3           |                   |
|      | 13      | Assumptions (1) – General considerations                         | 28          |              |                   |
|      | 14      | Assumptions (2) – Demographic assumptions                        | 28          |              |                   |
|      | 15      | Assumptions (3) – Financial assumptions                          | 38          |              |                   |
|      | 16      | Assumptions (4) – Other assumptions                              | 22          |              |                   |
| 4    | 17      | Pricing (1) – Individual business                                | 38          | X4           | 2                 |
|      | 18      | Pricing (2) – Group business                                     | 30          |              |                   |
|      | 19      | Pricing (3) – Other considerations                               | 31          |              |                   |
|      | 20      | Pricing (4) – Options and guarantees                             | 19          |              |                   |
|      | 21      | Reserves and embedded value                                      | 29          |              |                   |
|      | 22      | Approaches to setting reserves and solvency capital requirements | 38          |              |                   |
| 5    | 23      | Nature of risks (1)  | 24          | X5           | 3                 |
|      | 24      | Nature of risks (2)  | 27          |              |                   |
|      | 25      | Nature of risks (3)  | 15          |              |                   |
|      | 26      | Reinsurance  | 56          |              |                   |
|      | 27      | Other risk management techniques                                 | 56          |              |                   |
| 6    | 28      | Investment   | 33          | X6           |                   |
|      | 29      | Monitoring and feedback into the control cycle                   | 54          |              |                   |
|      | 30      | Problem solving  | 41          |              |                   |
|      | 31      | Glossary   | 30          |              |                   |

## 3 Syllabus

The Syllabus for each subject is produced by the Institute and Faculty of Actuaries. It includes information to support the study of this subject. The Syllabus will guide you through what you need to learn, the application of learning, as well as the skills that you need to develop.

Students can use the Syllabus as a guide for learning and development. We recommend that you use the Syllabus as an important part of your study.

### 3.1 Aim

The aim of Subject SP1 is to understand in detail the main principles that are relevant to the provision of health and care benefits, including the main products that are sold, the methods of valuation, and the main methods of actuarial management and control that are relevant to health and care business.

### 3.2 Topics and topic weightings

This subject covers the following topics:

- |    |   |       |
|----|---|-------|
| 1. | Health and Care products and general business environment | (15%) |
| 2. | Product design and specific features                      | (25%) |
| 3. | Risks and risk management                                 | (30%) |
| 4. | Models and valuation                                      | (15%) |
| 5. | Monitoring experience and setting assumptions             | (15%) |

The topic weighting percentage noted alongside the topics is indicative of the volume of content of a topic within the subject and therefore broadly aligned to the volume of marks allocated to this topic in the examination. For example, if a topic is 20% of the subject then you can expect that approximately 20% of the total marks available in the examination paper will be available on that topic.

Students should ensure that they are well prepared across the entire syllabus and have an understanding of the principal terms used within the course.

Students will be expected to be able to apply knowledge and skills from across the syllabus topics to scenarios and questions proposed by the examiners and produce coherent solutions and actions, including:

- analysing complex problems in terms of actuarial, economic and financial factors to a level where appropriate analytical techniques may be used
- assessing the implications and relevance of such factors, integrating the results into a coherent whole
- evaluating the results critically in a wider context, drawing appropriate conclusions
- proposing solutions and actions, or a range of possible solutions and actions, based on this evaluation.

### 3.3 Objectives

The detailed syllabus objectives for Subject SP1 are given below. To the right of each objective are the chapter numbers in which the objective is covered in the ActEd course. The relevant individual syllabus objectives are also included at the start of each course chapter.

1. **Health and care products and general business environment** (15%)

Understand the health and care insurance products which are commonly available and the environment in which they are sold.

1.1 Describe the main types of health and care insurance products and their purpose for the customer: (Chapters 1 to 5)

- critical illness insurance
- income protection insurance
- long-term care insurance
- health cash plans
- major medical expenses
- private medical insurance
- group and individual covers.

1.2 Understand the operating environments in which health and care insurance products and services are traded: (Chapters 8 and 9)

- distribution channels
- regulatory and taxation regimes
- professional guidance
- economic and political influences.

1.3 Explain the role of the State in the provision of alternative or complementary health and care protection: (Chapter 10)

- objectives of State healthcare provision
- methods of State healthcare provision
- funding approaches.

**2. Product design and specific features (25%)**

Have a knowledge of the considerations taken in the design of health and care products.

2.1 Demonstrate an understanding of and apply actuarial principles to the design of health and care insurance products, including: (Chapters 6 and 7)

2.1.1 The principles of health and care insurance product design and the interest of the various stakeholders in the process.

2.1.2 Creating a suitable design for a product in a given situation.

2.1.3 The relative merits of different product designs.

**3. Risks and risk management (30%)**

Understanding potential risks faced by a health and care insurance company and how these risks can be managed.

3.1 Assess how the following can be a source of risk to a health and care insurance company: (Chapters 23 to 25)

- data
- claim rates
- claim amounts
- investment performance
- expenses and inflation
- persistency
- mix of new business
- volume of new business
- guarantees and options
- competition
- actions of management
- actions of distributors
- counterparties
- legal, regulatory and tax developments
- reputation
- internal audit failures/fraud
- physical risks
- aggregation and concentration of risk
- catastrophes
- non-disclosure and anti-selection
- climate risks.

- 3.2 Demonstrate the application of reinsurance as a risk management technique, including the: (Chapter 26)
- 3.2.1 Purposes of reinsurance.
- 3.2.2 Different types and structures of reinsurance.
- 3.2.3 Factors that should be considered in determining the level of retention.
- 3.3 Demonstrate the application of underwriting as a risk management technique, including the: (Chapter 27)
- 3.3.1 Purposes of underwriting.
- 3.3.2 Different approaches by which underwriting is applied.
- 3.3.3 Factors that should be considered when determining the level of underwriting to use.
- 3.4 Propose further ways of managing the risks in 3.1, including: (Chapter 27)
- claims management
  - data checks
  - product design
  - managing the distribution process and customer relationship
  - managing other counterparties
  - other internal processes.
- 3.5 Demonstrate the application of asset-liability matching as a risk management technique: (Chapter 28)
- 3.5.1 Principles of investment and how they apply to health and care insurance.
- 3.5.2 Analyse health and care insurance liabilities into different types for asset-liability matching purposes.
- 3.5.3 Propose an appropriate asset-liability matching strategy for different types of liability.
4. **Models and valuation** (15%)
- Explore how health and care insurance companies use models within their business.
- 4.1 Describe the main features of a health and care insurance model, including the: (Chapters 11 and 17)
- 4.1.1 Objectives and basic features of a health insurance model.
- 4.1.2 Stochastic and deterministic approaches.
- 4.1.3 Formula and cashflow approach.

- 4.1.4 Basic features of multi-state models.
- 4.1.5 Use of sensitivity analysis.
- 4.2 Understand and apply the techniques used in pricing health and care insurance products in terms of: (Chapters 11, 12 and 17 to 20)
  - data availability
  - assumptions used
  - equation of value / formula approach
  - cashflow techniques
  - group risk assessments
  - options and guarantees
  - external influences.
- 4.3 Demonstrate the different uses of actuarial models for decision-making purposes in health and care insurance, including: (Chapter 11)
  - pricing products
  - developing investment strategy
  - projecting solvency
  - calculating embedded value.
- 4.4 Discuss the determination of supervisory reserves and solvency capital requirements for a health and care insurance company. (Chapters 21 and 22)
  - 4.4.1 Describe the purposes of reserves, solvency capital requirements and embedded values and the methodologies by which they are calculated for a health and care insurance company, including:
    - role of statistical and individual case estimates
    - setting assumptions, including a comparison with those used in pricing
    - market-consistent valuation
    - Value at Risk (VaR) capital assessment.
  - 4.4.2 Discuss the interplay between the strength of the supervisory reserves and the level of solvency capital required.
  - 4.4.3 Compare passive and active valuation approaches.



**5. Monitoring experience and setting assumptions (15%)**

Consider the issues for health and care insurance companies in setting assumptions and monitoring experience for health and care insurance business.

- 5.1 Apply the principles of setting assumptions for health and care insurance business, including: (Chapters 13 to 16 and 19)
  - 5.1.1 For pricing health and care insurance products.
  - 5.1.2 For determining liabilities.
  - 5.1.3 Explaining why the assumptions used for supervisory reserves may be different from those used in pricing.
  - 5.1.4 For determining a company's embedded value.
- 5.2 Undertake experience monitoring in a health insurance company, including an understanding of: (Chapter 29)
  - 5.2.1 Why it is important for a health insurance company to monitor its experience.
  - 5.2.2 How to monitor the actual mortality, morbidity, claims amounts, persistency, expense, new business and investment experience of a health insurance company, including the data required.
- 5.3 Demonstrate the relevance of analysis of surplus or profit, including: (Chapter 29)
  - 5.3.1 How to undertake an analysis of surplus and an analysis of embedded value profit.
  - 5.3.2 Suggest ways in which the results of such analyses can be used.

## 4 Core Reading

This section explains the role of the Core Reading and how it links to the Syllabus, supplementary ActEd text and the examination.

### 1.1 Core Reading

The Core Reading has been produced by the Institute and Faculty of Actuaries. It supports students in their learning and development of this subject by providing information and explanation of the topics and objectives in the Syllabus.

The Core Reading is updated annually to reflect any changes to the Syllabus and current practice, as well as for continuous improvement.

The current version of the Core Reading is up-to-date as of 31 May 2024. It references the version of any legislation, standards, professional guidance, *etc* as of this date. Any known upcoming changes to the references are noted where relevant in the Core Reading.

### Accreditation

The Institute and Faculty of Actuaries would like to thank the numerous people who have helped in the development of the material contained in the Core Reading.

### Further reading

A list of additional resources to support candidate learning and development for this subject can be found on the Module pages on the Institute and Faculty of Actuaries' website:

[actuaries.org.uk/curriculum/](https://actuaries.org.uk/curriculum/)

### 4.1 Links to the Syllabus

Each part of the Core Reading relates directly to the Syllabus.

The relevant syllabus objectives are included at the start of each chapter for reference.

The Core Reading supports coverage of the Syllabus in helping to ensure that both depth and breadth are re-enforced.

### 4.2 Links to the examination

Examiners can set questions based on any area of the Syllabus within any examination sitting and will consider and draw from the Core Reading when setting examinations questions.

Students will be expected to apply the Core Reading to scenarios and questions proposed by the examiners.

The exams in April and September 2025 will be based on the Syllabus and Core Reading as at 31 May 2024. We recommend that you always use the up-to-date Core Reading to prepare for the exams.

Past papers indicate to students how the examiners apply the Core Reading. The Examiners' Reports provide further insight as to how students answered the questions and how marks were awarded.

### 4.3 ActEd text

The Core Reading deals with each syllabus objective and covers what is needed to pass the exam, and the Subject SP1 Course Notes include the Core Reading in full, integrated throughout the course.

However, the tuition material that has been written by ActEd enhances it by giving examples and further explanation of key points. Here is an excerpt from some ActEd Course Notes to show you how to identify Core Reading and the ActEd material. **Core Reading is shown in this bold font.**

In the example given above, the index *will* fall if the actual share price goes below the theoretical ex-rights share price. Again, this is consistent with what would happen to an underlying portfolio.

**After allowing for chain-linking, the formula for the investment index then becomes:**

$$I(t) = \frac{\sum_i N_{i,t} P_{i,t}}{B(t)}$$

**where  $N_{i,t}$  is the number of shares issued for the  $i$ th constituent at time  $t$ ;**

**$B(t)$  is the base value, or divisor, at time  $t$ .**

This is ActEd text

This is Core Reading

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Legal action will be taken if these terms are infringed. In addition, we may seek to take disciplinary action through the Institute and Faculty of Actuaries or through your employer.

These conditions remain in force after you have finished using the course.

## 5 Skills and assessment

### 5.1 Exam skills

In each examination, students will be expected to demonstrate, through their answers, that they have knowledge of, can apply and use higher order skills in this subject:

- Knowledge will be demonstrated through answering questions that assess understanding of that knowledge as well as through questions that ask for the application of relevant knowledge to scenarios.
- Application will be demonstrated through answering questions that assess the ability to identify and apply relevant concepts and skills to solve problems (both numerical and non-numerical).
- Higher order skills will be demonstrated through questions that will assess the ability to use relevant knowledge, concepts and skills to solve problems, draw appropriate conclusions, and make meaningful and appropriate comments on those conclusions.

In Subject SP1, the approximate split of assessment across the three skill types is:

- Knowledge – 25%
- Application – 50%
- Higher Order skills – 25%.

The Institute and Faculty of Actuaries use command verbs (such as 'Define', 'Discuss' and 'Explain') to help students to identify what the question requires. The examination can be composed of questions drawing from any part of the syllabus and using any command verb.

The Institute and Faculty of Actuaries has produced guidance on 'Command verbs used in the Associate and Fellowship examinations', to help students to understand what each command verb is asking them to do.

You can find the relevant document on the Institute and Faculty of Actuaries' website at:

**[actuaries.org.uk/qualify/prepare-for-your-exams](https://actuaries.org.uk/qualify/prepare-for-your-exams)**

### 5.2 Assessment

Assessment will consist of one 3 hour 20 minute timed, online examination. This time includes reading time, as well as the time taken for students to download and/or print the question paper.

Students can expect to answer a number of questions of varying marks, using Microsoft Word to construct and type their answers.

### 5.3 Further information

The Institute and Faculty of Actuaries has produced a number of documents, which it advises students to read and understand. In particular, the:

- Qualification Handbook, which contains information on studying and preparing for exams, as well as available support and resources
- Examinations Handbook, which contains practical assistance on how to sit an Institute and Faculty of Actuaries' examination
- Assessment Regulations document, which includes rules on eligibility, entry and conduct during an online assessment.

The Qualification Handbook can be found at:

**[actuaries.org.uk/qualify/student-and-associate-exam-news/qualification-handbook](https://actuaries.org.uk/qualify/student-and-associate-exam-news/qualification-handbook)**

The Examinations Handbook and Assessment Regulations document can be found at:

**[actuaries.org.uk/qualify/my-exams/ifoa-exams](https://actuaries.org.uk/qualify/my-exams/ifoa-exams)**

**IMPORTANT NOTE: These documents may be updated and re-published in the weeks leading up to each exam session. It is important that you keep up-to-date with any changes and developments.**

## 6 ActEd study support

An overview of ActEd's products and services, and guidance on how to choose the best ones for you, can be found on our website at [ActEd.co.uk/productguide](https://www.acted.co.uk/productguide).

### 6.1 Summary of ActEd products and services

Detailed descriptions of all ActEd's products and services can be found on our website at [ActEd.co.uk](https://www.acted.co.uk). However, the specific products and services available for Subject SP1 include:

- Course Notes
- X Assignments – six assignments:
  - X1-X3: 80-mark tests (you are allowed 2¾ hours to complete these)
  - X4-X6: 100-mark tests (you are allowed 3¼ hours to complete these)
- Series X Marking
- Online Classroom – over 55 tutorial units
- Flashcards
- Revision Notes – six A5 booklets
- ASET (2020-23 papers) – four years of exam papers, *ie* eight sittings, covering the period April 2020 to September 2023
- Mini ASET – covering the April 2024 exam paper
- Mock Exam – one 100-mark test
- Additional Mock Pack (AMP) – two additional 100-mark tests
- Mock Exam Marking
- Marking Vouchers.

Products are generally available in both paper and eBook format. Visit [ActEd.co.uk](https://www.acted.co.uk) for full details about available eBooks, software requirements and restrictions.

### 6.2 Tuition

The following tutorials are typically available for Subject SP1:

- Regular Tutorials (three days)
- Block Tutorials (three days).

Tutorials are typically available both face-to-face and live online.

Full details are set out in our *Tuition Bulletin*, which is available on our website at [ActEd.co.uk](https://www.acted.co.uk).

## 6.3 Questions and queries

From time to time you may come across something in the study material that is unclear to you.

Our online discussion forum at **ActEd.co.uk/forums** (or use the link from our home page at **ActEd.co.uk**) is dedicated to actuarial students so that you can get help from fellow students on any aspect of your studies from technical issues to study advice. ActEd tutors visit the site regularly to ensure that you are not being led astray and we also post other frequently asked questions from students on the forum as they arise.

If you are still stuck, then you can send queries by email to the Subject SP1 email address **SP1@bpp.com**, but we recommend that you try the forum first. We will endeavour to contact you as soon as possible after receiving your query but you should be aware that it may take some time to reply to queries, particularly when tutors are running tutorials. At the busiest teaching times of year, it may take us more than a week to get back to you.

If you have many queries on the course material, you should raise them at a tutorial or book a personal tuition session with an ActEd tutor. Please email **ActEd@bpp.com** for more details.

## 6.4 Tuition

If you find an error in the course, please check the corrections page of our website (**ActEd.co.uk/paper\_corrections.html**) to see if the correction has already been dealt with. Otherwise, please send the details via email to the Subject SP1 email address **SP1@bpp.com**. Our tutors work hard to ensure that the courses are as clear as possible and free from errors.

ActEd also works with the Institute and Faculty of Actuaries to suggest developments and improvements to the Syllabus and Core Reading. If you have any comments or concerns about the Syllabus or Core Reading, these can be passed on via ActEd. Alternatively, you can send them directly to the Institute and Faculty of Actuaries' Examination Team by email to **memberservices@actuaries.org.uk**.

## 7 General information and support

### 7.1 Safeguarding

We want you to feel comfortable within our learning environment and safe in the knowledge that if you ever needed support, you know where to go.

If you need support, please contact BPP's Safeguarding team at [safeguarding@bpp.com](mailto:safeguarding@bpp.com) or for urgent concerns call 07464 542 636.

Additional information can be found at [ActEd.co.uk/learningsupport](https://ActEd.co.uk/learningsupport).

### 7.2 BPP learning support

BPP's Learning Support team offers a wide range of support for all students who disclose a learning difficulty or disability. This support is accessible to all ActEd students free of charge.

Please contact BPP's Learning Support team at [LearningSupport@bpp.com](mailto:LearningSupport@bpp.com) for more information.

Additional information can be found at [ActEd.co.uk/learningsupport](https://ActEd.co.uk/learningsupport).

### 7.3 The Prevent Duty

The Prevent Duty is to protect people from radicalisation and being drawn into extremist views and terrorism. As a Government-regulated training provider, ActEd has a duty to ensure that our learners are well informed and stay safe, and to empower our students to know what to look for and when to report concerns.

Please report any concerns to a tutor or email [safeguarding@bpp.com](mailto:safeguarding@bpp.com) or for urgent concerns call 07464 542 636.

More information is available at:

- [ActEd.co.uk/learningsupport](https://ActEd.co.uk/learningsupport)
- [officeforstudents.org.uk/advice-and-guidance/student-wellbeing-and-protection/counter-terrorism-the-prevent-duty/](https://officeforstudents.org.uk/advice-and-guidance/student-wellbeing-and-protection/counter-terrorism-the-prevent-duty/)