

# Subject CM1

## 2025 Study Guide

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## 1 Introduction

This Study Guide has been created to help you navigate your way through Subject CM1. It contains useful information you will need before starting to study Subject CM1 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

#### Associateship Qualification

Concepts in Actuarial Mathematics for Modelling (Subject CM1) are introduced in Actuarial Statistics (Subject CS1), in particular, a familiarity with probabilities, random variables, expectation and variance, which is required understanding for Subject CM1.

Topics in Subject CM1 are further developed in:

- Economic Modelling (Subject CM2) – extension and application of many concepts and techniques from Subject CM1 to stochastic modelling
- Business Finance (Subject CB1) – application of the knowledge of interest rates to the interpretation of corporate accounts and understanding how corporate operations are financed
- Actuarial Practice (Subject CP1) – applies Subject CM1 techniques to real world problems
- Modelling Practice (Subject CP2) – application and communication of Subject CM1 techniques in a business context
- Communications Practice (Subject CP3) – may draw upon concepts and techniques from Subject CM1 in order to answer the Subject CP3 examination questions.

#### Fellowship Qualification

Concepts, principles and techniques from Subject CM1 are further developed in the following Specialist Principles subjects, through solving problems and giving appropriate advice, guidance and recommendations:

- Subject SP1 – Health and Care Principles
- Subject SP2 – Life Insurance Principles
- Subject SP4 – Pensions and other Benefits Principles.

### 2.2 Subject contents

There are five parts to the Subject CM1 course. The parts cover related topics and are broken down into chapters. At the end of each part there are assignments 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 Asst	Y Asst	Tutorial – 5 days
1	1	The time value of money	27	X1	Y1	1
	2	Interest rates	40			
	3	Real and money interest rates	13			
	4	Discounting and accumulating	32			
	5	Level annuities	36			
	6	Increasing annuities	30			
	7	Equations of value	29			
2	8	Loan schedules	31	X2	Y1	2
	9	Project appraisal	32			
	10	Bonds, equity and property	54			
	11	Term structure of interest rates	51			
3	12	The life table	45	X3	Y1	3
	13	Life assurance contracts	45			
	14	Life annuity contracts	46			
	15	Evaluation of assurances and annuities	31			
	16	Variable benefits and conventional with-profits policies	41			
4	17	Gross premiums	41	X4	Y2	4
	18	Gross premium reserves	59			
	19	Joint life and last survivor functions	41			
	20	Contingent and reversionary benefits	61			
5	21	Mortality profit	35	X5	Y2	5
	22	Competing risks	61			
	23	Unit-linked and accumulating with-profits contracts	25			
	24	Profit testing	53			
	25	Reserving aspects of profit testing	56			

## 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

Subject CM1 develops a grounding in the mathematical principles required for actuarial modelling, with a focus on understanding deterministic models and their application to solve financial problems. Alongside this, the related and required understanding of the theory of interest rates and the skills to model cashflows, which may be known or contingent on mortality, morbidity or survival, are also developed.

### 3.2 Topics and topic weightings

This subject covers the following topics:

- |    |  |       |
|----|--|-------|
| 1. | Theory of interest rates               | (25%) |
| 2. | Equation of value and its applications | (20%) |
| 3. | Decrement and multiple life models     | (20%) |
| 4. | Pricing and reserving                  | (35%) |

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.

### 3.3 Objectives

The detailed syllabus objectives for Subject CM1 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. Theory of interest rates (25%)**

Understand the principles of time preference theory of interest and the time value of money, including the term structure of interest rates and standard actuarial compound interest rate functions. Apply these principles to real world examples of interest rates, discounting and evaluation of present value of cashflows.

1.1 Show how interest rates may be expressed in different time periods:  
(Chapters 1 and 2)

1.1.1 Relationship between the rates of interest and discount over one effective period, considered arithmetically and by general reasoning.

1.1.2 Determine, when given a rate of interest under a specific payment frequency, the equivalent rate under an alternative payment frequency including:

- annual effective rate of interest or discount
- rate of interest or discount payable  $p$ thly ( $p > 1$ )
- force of interest.

1.1.3 Calculate the equivalent annual rate of interest implied by the accumulation of a sum of money over a specified period where the force of interest is a function of time.

1.2 Account for the time value of money using the concepts of compound interest and discounting: (Chapter 1)

1.2.1 Accumulate a single investment at a constant rate of interest under the operation of simple and compound interest.

1.2.2 Calculate the present value of a future payment by discounting a single investment.

1.3 Extend the techniques in 1.1 and 1.2 where appropriate to allow for inflation.  
(Chapters 3 and 10)

1.4 Describe the operation of financial instruments and insurance contracts as a cashflow model (where cashflows may be fixed or uncertain in terms of both amount and timing).  
(Chapters 7, 8 and 10)

1.5 Calculate the present value and accumulated value for a given stream of cashflows under the following individual combination of scenarios: (Chapter 4)

1.5.1 Cashflows are equal at each time period;

1.5.2 Cashflows vary with time, which may or may not be a continuous function of time;

1.5.3 Some of the cashflows are deferred for a long period of time;

- 1.5.4 Rate of interest or discount is constant; and
- 1.5.5 Rate of interest or discount varies with time, which may or may not be a continuous function of time.
- 1.6 Evaluate the following annuity and accumulation functions, when given the values for the term,  $n$ , and the appropriate interest or discount function  $i$ ,  $v$ ,  $d$ ,  $\delta$ ,  $j^{(p)}$  and  $d^{(p)}$ : (Chapters 5 and 6)
- 1.6.1  $a_{\overline{n}|}$ ,  $s_{\overline{n}|}$ ,  $a_{\overline{n}|}^{(p)}$ ,  $s_{\overline{n}|}^{(p)}$ ,  $\ddot{a}_{\overline{n}|}$ ,  $\ddot{s}_{\overline{n}|}$ ,  $\ddot{a}_{\overline{n}|}^{(p)}$ ,  $\ddot{s}_{\overline{n}|}^{(p)}$ ,  $\bar{a}_{\overline{n}|}$  and  $\bar{s}_{\overline{n}|}$ .
- 1.6.2  $m|a_{\overline{n}|}$ ,  $m|a_{\overline{n}|}^{(p)}$ ,  $m|\ddot{a}_{\overline{n}|}$ ,  $m|\ddot{a}_{\overline{n}|}^{(p)}$  and  $m|\bar{a}_{\overline{n}|}$ .
- 1.6.3  $(Ia)_{\overline{n}|}$ ,  $(I\ddot{a})_{\overline{n}|}$ ,  $(\bar{Ia})_{\overline{n}|}$  and  $(\bar{I}\ddot{a})_{\overline{n}|}$  and the respective deferred annuities.
- 1.7 Demonstrate an understanding of the term structure of interest rates: (Chapter 11)
- 1.7.1 Understand the main factors influencing the term structure of interest rates.
- 1.7.2 Understand and calculate:
- discrete spot rates and forward rates.
  - continuous spot rates and forward rates.
- 1.7.3 Understand and calculate the par yield and yield to maturity.
- 1.8 Understand duration, convexity and immunisation of cashflows: (Chapter 11)
- 1.8.1 Demonstrate how the duration and convexity of a cashflow sequence may be used to estimate the sensitivity of the value of the cashflow sequence to a shift in interest rates.
- 1.8.2 Understand, apply and discuss Redington's conditions for immunisation of a portfolio of liabilities.

**2. Equation of value and its applications (20%)**

Understand and apply equation of value principles to evaluate financial problems, in particular relating to loan schedules, bond prices, bond yields and project appraisals:

2.1 Understand and apply the concept of an equation of value in terms of: (Chapter 7)

- where payment or receipt is certain
- where payment or receipt is uncertain
- the two conditions required for there to be an exact solution

2.2 Use the concept of equation of value to solve various practical problems:  
(Chapters 8 and 10)

2.2.1 Apply the equation of value to loans repaid by regular instalments of interest and capital. Obtain repayments, interest and capital components, the effective interest rate (APR) and construct a schedule of repayments.

2.2.2 Calculate the price of, or yield (nominal or real allowing for inflation) from, a bond (fixed-interest or index-linked) where the investor is subject to deduction of income tax on coupon payments and redemption payments are subject to deduction of capital gains tax.

2.2.3 Calculate the running yield and the redemption yield for the financial instrument as described in 2.2.2.

2.2.4 Calculate the upper and lower bounds for the present value of the financial instrument as described in 2.2.2, when the redemption date can be a single date within a given range at the option of the borrower.

2.2.5 Calculate the present value or yield (nominal or real allowing for inflation) from an ordinary share or property, given constant or variable rate of growth of dividends or rents.

2.3 Apply cashflow and equation of value techniques to project appraisals:  
(Chapter 9)

2.3.1 Calculate the net present value and accumulated profit of the receipts and payments from an investment project at given rates of interest.

2.3.2 Calculate the internal rate of return, payback period and discounted payback period and discuss their suitability for assessing the suitability of an investment project.

### 3. Decrement and multiple life models (20%)

Understand how to model uncertain future cashflows, which may depend on the death or survival of an individual, or other uncertain events. Be introduced to the life table, calculation of the mean and variance of the present value of all of the main life insurance and annuity contracts, and their relationship in actuarial terms. Extend the single decrement model to evaluate health insurance contracts involving two lives as well as the valuation of cashflows in a competing risk environment using multiple state models:

- 3.1 Demonstrate an understanding of the operation of key assurance and annuity contracts: (Chapters 12, 13, 14, 16 and 23)
- 3.1.1 Understand the following contracts, for example by explaining the timing and nature of the cashflows involved:
- whole-life assurance
  - term assurance
  - pure endowment
  - endowment assurance
  - whole-life level annuity
  - temporary level annuity
  - guaranteed level annuity
  - deferred benefits (annuity and assurance)
  - return of premiums annuity
  - joint life and variable versions of all products
- 3.1.2 Understand the operation of conventional with-profits contracts, where profits are distributed by the use of regular reversionary bonuses and by terminal bonuses.
- 3.1.3 Understand the operation of conventional unit-linked contracts, where death benefits are expressed as combination of absolute amount and relative to a unit fund.
- 3.1.4 Understand the operation of accumulating with-profits contracts where benefits take the form of an accumulating fund of premiums, where:
- the fund is defined in monetary terms, has no explicit charges, and is increased by the addition of regular guaranteed and bonus interest payments plus a terminal bonus; or
  - the fund is defined in terms of the value of a unit fund, is subject to explicit charges, and is increased by regular bonus additions (through unit price increases or allocations of additional units) plus a terminal bonus (unitised with-profits).



- 3.2 Apply formulae for the means and variances of the payments under various assurance and annuity contracts, assuming constant deterministic interest rate:  
(Chapters 12, 13, 14, 15, 16 and 18)
- 3.2.1 Life table functions  $l_x$  and  $d_x$  and their select equivalents  $l_{[x]+r}$  and  $d_{[x]+r}$ .
- 3.2.2 Describe the meaning of the following probabilities:  ${}_n p_x$ ,  ${}_n q_x$ ,  ${}_n | m q_x$ ,  ${}_n | q_x$  and their select equivalents  ${}_n p_{[x]+r}$ ,  ${}_n q_{[x]+r}$ ,  ${}_n | m q_{[x]+r}$ ,  ${}_n | q_{[x]+r}$ .
- 3.2.3 Express the probabilities defined in 3.2.2 in terms of life table functions defined in 3.2.1.
- 3.2.4 Use assurance and annuity factors and their select and continuous equivalents including the extension of the annuity factors to allow for the possibility that payments are more frequent than annual but less frequent than continuous.
- 3.2.5 Use the relationship between annuities payable in advance and in arrear, and between temporary, deferred and whole life annuities.
- 3.2.6 Use the relationship between assurance and annuity factors using equation of value, and their select and continuous equivalents.
- 3.2.7 Obtain the mean and variance of the present value of benefit payments as sums / integrals under each contract defined in 3.1.1, in terms of the (curtate) random future lifetime, assuming:
- contingent benefits (constant, increasing or decreasing) are payable at the middle or end of the year of contingent event or continuously.
  - annuities are paid in advance, in arrear or continuously, and the amount is constant, increases or decreases by a constant monetary amount or by a fixed or time-dependent variable rate.
  - premiums are payable in advance, in arrear or continuously; and for the full policy term or for limited period.
- Where appropriate, simplify the above expressions into a form suitable for evaluation by table look-up or other means.
- 3.2.8 Evaluate the expected accumulations in terms of expected values for the contracts described in 3.1.1 and contract structures described in 3.2.7.
- 3.3 Describe and use assurance and annuity functions involving two lives:  
(Chapters 19 and 20)
- 3.3.1 Extend the techniques of objectives 3.2 to deal with cashflows dependent upon the death or survival of either or both of two lives.

- 3.3.2 Extend technique in 3.3.1 to deal with functions dependent upon a fixed term as well as age.
- 3.4 Describe and apply methods of valuing cashflows that are contingent upon multiple transition events: (Chapter 22)
  - 3.4.1 Demonstrate an understanding of simple health insurance premium and benefit structures.
  - 3.4.2 Describe how a cashflow, contingent upon multiply transition events, may be valued using a multiple state Markov model, in terms of the forces and probabilities of transition.
  - 3.4.3 Construct formulae for the expected present values of cashflows that are contingent upon multiple transition events, including simple health insurance premiums and benefits, and calculate these in simple cases. This includes regular premiums and sickness benefits that are payable continuously and assurance benefits that are payable immediately on transition.
- 3.5 Describe and use methods of projecting and valuing expected cashflow that are contingent upon multiple decrement events: (Chapter 22)
  - 3.5.1 Understand the construction and use of multiple decrement tables.
  - 3.5.2 Understand the operation of a multiple decrement model as a special case of multiple-state Markov model.
  - 3.5.3 Determine dependent probabilities for a multiple decrement model in terms of given forces of transition, assuming forces of transition are constant over single years of age.
  - 3.5.4 Determine forces of transition from given dependent probabilities, assuming forces of transition are constant over single years of age.

**4. Pricing and reserving (35%)**

Understand the future loss random variable and its application to the calculation of premiums for conventional life assurance and annuity contracts. Use the prospective and retrospective approaches to calculate reserves, the recursive relationship between reserves, and calculate mortality profit. Project cashflows to profit test life insurance contracts and apply projected cashflow techniques to pricing and reserving:

- 4.1 Determine the gross random future loss random variable under an insurance contract. (Chapter 18)
- 4.2 Calculate gross premiums and reserves of assurance and annuity contracts: (Chapters 17 and 18)
  - 4.2.1 Calculate gross premiums for the insurance contract benefits listed in 3.1.1 under the following scenarios, or a combination thereof, using the equivalence principle or otherwise:
    - contracts may accept only a single premium
    - regular premiums and annuity benefits may be payable annually, more frequently than annually or continuously
    - death benefits (which increase or decrease by a constant compound rate or by a constant monetary amount) may be payable at the end of the year of death or immediately on death
    - survival benefits (other than annuities) may be payable at defined intervals other than at maturity.
  - 4.2.2 Understand why an insurance company will set up reserves.
  - 4.2.3 Calculate gross prospective and retrospective reserves.
  - 4.2.4 Understand the equivalence of the prospective reserve and the retrospective reserve under certain conditions, with or without allowance for expenses, for all fixed benefit and increasing/decreasing benefit contracts.
  - 4.2.5 Obtain recursive relationships between successive periodic gross premium reserves, and use this relationship to calculate the profit earned from a contract during the period.
  - 4.2.6 Understand the concepts of net premiums and net premium valuation and how they relate to gross premiums and gross premium valuation respectively.

4.3 Describe and calculate, for a single policy or a portfolio of policies (as appropriate):

- death strain at risk;
- expected death strain;
- actual death strain; and
- mortality profit

for policies with death benefits payable immediately on death or at the end of the year of death, policies paying annuity benefits at the start of the year or on survival to the end of the year, and policies where single or non-single premiums are payable. (Chapter 21)

4.4 Project expected future cashflows for whole life, endowment and term assurances, annuities, unit-linked contracts, and conventional/unitised with-profits contracts, incorporating multiple decrement models as appropriate: (Chapters 24 and 25)

4.4.1 Profit test life insurance contracts of the types listed above and determine the profit vector, the profit signature, the net present value, and the profit margin.

4.4.2 Show how a profit test may be used to price a product, and use a profit test to calculate a premium for life insurance contracts of the types listed above.

4.4.3 Show how gross premium reserves can be computed using the above cashflow projection model and included as part of profit testing.

4.5 Show how, for unit-linked contracts, non-unit reserves can be established to eliminate ('zeroise') future negative cashflows, using a profit test model. (Chapter 25)

## 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.

### 4.1 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/)

### 4.2 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.

### 4.3 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.

#### 4.4 ActEd text

The Core Reading deals with each syllabus objective and covers what is needed to pass the exam, and the Subject CM1 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

#### Copyright

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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 Technical skills

Subjects CM1 and CM2 are very mathematical and have relatively few questions requiring wordy answers.

### 5.2 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 the CM subjects, the approximate split of assessment across the three skill types is:

- Knowledge – 5%
- Application – 80%
- Higher Order skills – 15%.

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)**

### 5.3 Assessment

Assessment is in the form of two timed, online examinations:

- Paper A is 3 hours and 20 minutes and consists of a number of questions of varying marks, for which the answers must be constructed and typed in Microsoft Word
- Paper B is 1 hour and 50 minutes and consists of a number of questions of varying marks, for which the answers must be completed, constructed and typed using Microsoft Excel.

This includes reading time, as well as the time taken for students to download and/or print the question paper.

In order to pass this subject, both Paper A and Paper B must be sat within the same sitting, and a combined mark of a pass achieved.

## 5.4 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/ifo-exams](https://actuaries.org.uk/qualify/my-exams/ifo-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 CM1 include:

- Course Notes
- Paper B Online Resources (PBOR), including the Y Assignments
- X Assignments – five assignments:
  - X1, X2, X3: 80-mark tests (you are allowed 2¾ hours to complete these)
  - X4, X5: 100-mark tests (you are allowed 3¾ hours to complete these)
- Y Assignments – two assignments:
  - Y1, Y2: 100-mark tests (you are allowed 1¾ hours to complete these)
- Series X Marking
- Series Y Marking
- Online Classroom – over 140 tutorial units
- Flashcards
- Revision Notes – 12 A5 booklets
- ASET (2020-23 papers) – four years of exam papers, covering the period April 2020 to September 2023
- Mini-ASET – covering the April 2024 exam paper
- Mock Exam – one 100-mark test for the Paper A examination and a separate 100-mark test for the practical Paper B exam
- Additional Mock Pack (AMP) – two additional 100-mark Paper A tests and two additional 100-mark Paper B 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 CM1:

- Regular Tutorials (five full days / ten half days)
- Block Tutorials (five days)
- a Preparation Day for the practical (Paper B) exam.

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**.

## 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 CM1 email address **CM1@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 Feedback

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 CM1 email address **CM1@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**.

## 6.5 Some useful formulae

Formulae are explained and developed in the relevant chapters of the Course Notes. However, we have also put together a document containing some of the most commonly used formula within Subject CM1. This can be found on our website at **ActEd.co.uk**, and then navigating to 'Subjects' and then 'CM1'. You may find this document helpful when starting to practice questions. Other useful formulae are given on pages 36 and 37 of the *Tables*.

## 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/)