

Subject SA1

2021 Study Guide

Introduction

This Study Guide has been created to help you to navigate your way through Subject SA1. It contains all the information you will need before starting to study Subject SA1 for the 2021 exams and you may also find it useful to refer to throughout your Subject SA1 journey.

The guide is split into two parts:

- Part 1 contains specific information about Subject SA1
- Part 2 contains general information about the Specialist Advanced subjects.

Please read this Study Guide carefully before reading the Course Notes, even if you have studied for some actuarial exams before. While you may have already read (the majority of) the Part 2 material in previous subjects, the information in Part 1 is unique to this course.

Contents

Part 1	Section 1	Subject SA1 – background and contents	Page 2
	Section 2	Subject SA1 – Syllabus and Core Reading	Page 4
	Section 3	Subject SA1 – summary of ActEd products	Page 10
	Section 4	Subject SA1 – skills and assessment	Page 11
	Section 5	Subject SA1 – frequently asked questions	Page 12
Part 2	Section 1	Before you start	Page 14
	Section 2	Core study material	Page 15
	Section 3	ActEd study support	Page 18
	Section 4	Study skills and assessment	Page 24
	Section 5	Queries and feedback	Page 30

1.1 Subject SA1 – background and contents

History

The Specialist Advanced subjects were introduced in the Institute and Faculty of Actuaries 2019 Curriculum.

Subject SA1 is *Health and Care*.

Predecessors

The Specialist Advanced subjects cover content that was previously in the Specialist Applications subjects. So:

- Subject Specialist Advanced (SA) 1 replaces Subject Specialist Applications 1.

Exemptions

In order to be eligible for a pass in Subject SA1, you will need:

- to have passed or been granted an exemption from the previous Subject SA1 during the transfer process
- to have met the profession's requirements based on the current curriculum.

See the profession's website for further details:

www.actuaries.org.uk/studying/exam-exemptions

Links to other subjects

- Subject SP1 – Health and Care Principles (previously Subject ST1): provides the underlying principles of health and care upon which this subject is based. It is assumed that candidates have a good understanding of this material.

Candidates can expect to be examined in aspects of general principles developed in Subject SP1 – Health and Care Principles as well as in the specific aspects developed in this subject.

- Subject P1 – Health and Care UK Practice Module Specialist: the knowledge required to pass Subject P1 is contained in this subject and in an additional appendix including UK specific Health and Care Material.
- SP2 – Life Insurance Principles.
- SA2 – Life Insurance Advanced.

Contents

There are six parts to the Subject SA1 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 – 2 days
0	1	Introduction	12		1
1	2	Long-term health and care insurance products	36	X1	
	3	Short-term health and care insurance products	20		
	4	Product analysis	36		
	5	General business environment (1)	51		
	6	General business environment (2)	48		
2	7	Product design and pricing (1)	47	X2	
	8	Product design and pricing (2)	47		
	9	Taxation environment	25		
3	10	Approaches to regulation	34	X3	2
	11	Solvency II (1)	16		
	12	Solvency II (2)	42		
	13	Other approaches to solvency regulation	24		
	14	Profit and value reporting	36		
	15	Professional standards and guidance	21		
4	16	Capital management	25	X4	1
	17	Reinsurance	31		
	18	Asset-liability management	33		
	19	Analysis of experience	51		
5	20	Analysis of surplus, embedded value and profit	37	X5	2
	21	Assessing strategies	49		
6	22	Recommending strategies	47	X6	
	23	Implications of strategies	28		
	24	National healthcare systems	42		
	25	Best practice	24		
	26	Solving complex issues	32		
	27	Glossary	29		

1.2 Subject SA1 – Syllabus and Core Reading

Syllabus

The Syllabus for Subject SA1 is given here. To the right of each objective are the chapter numbers in which the objective is covered in the ActEd course.

Aim

The aim of the Health and Care Specialist Advanced subject is to instil in successful candidates the ability to apply knowledge of the health and care environment (in the United Kingdom and other jurisdictions) and the principles of actuarial practice to the provision of health and care benefits in complex situations.

Competences

On successful completion of this subject, a student will be able to:

1. understand the more complex aspects of actuarial practice within health and care insurance companies
2. apply the principles of actuarial practice to the management of health and care insurance under complex scenarios
3. compare the approaches by which the principles are applied in practice across different jurisdictions
4. recommend coherent solutions and courses of action in relation to the overall management of health insurance companies.

Syllabus topics

- | | | |
|----|---|-------|
| 1. | Health and care products and general business environment | (30%) |
| 2. | Regulatory, legislative and taxation environment | (10%) |
| 3. | Rating, pricing and underwriting | (20%) |
| 4. | Valuation, asset-liability management (ALM) and reinsurance | (20%) |
| 5. | Monitoring and strategy | (20%) |

The weightings are indicative of the approximate balance of the assessment of this subject between the main syllabus topics, averaged over a number of examination sessions.

The weightings also have a correspondence with the amount of learning material underlying each syllabus topic. However, this will also reflect aspects such as:

- the relative complexity of each topic and hence the amount of explanation and support required for it
- the need to provide thorough foundation understanding on which to build the other objectives
- the extent of prior knowledge that is expected
- the degree to which each topic area is more knowledge- or application-based.

Detailed syllabus objectives

0. Introduction

0.1 Define the principal terms used in health and care in various jurisdictions. (Chapter 27)

1. Health and Care products and general business environment (30%)

1.1 Describe the major health and care insurance products that are offered, beyond the general descriptions provided in Subject SP1:

1.1.1 Describe the benefits and other main features of the following products: (Chapters 2 and 3)

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

1.1.2 Analyse the health and care insurance products outlined in 1.1.1 in terms of: (Chapters 2-4)

- customer needs
- interaction with State provision
- bundling and unbundling
- impact of unit-linked wrappers.

- 1.2 Assess the effect of the general business environment on the management of health and care insurers, in terms of: (Chapters 5 and 6)
- products and distribution, including the roles of the State and employers
 - underwriting approaches, including genetic testing
 - use of counterparties
 - external influences – demographic, medical, economic, political and social
 - key medical conditions, treatments and other current health issues.
- 1.3 Suggest actions that a health and care insurance company could take in order to ensure that it is treating customers fairly. (Chapter 10)
- 1.4 Understand areas of best practice in international health and care provision. (Chapter 25)
- 1.5 Understand the considerations underlying the provision of national healthcare systems: (Chapter 24)
- the importance of healthcare provision
 - different healthcare systems worldwide
 - different approaches to financing healthcare
 - QALYs (quality adjusted life years)
2. Regulatory, legislative and taxation environment (10%)
- 2.1 Explain the relevance of legislation to health and care insurance business, in relation to: (Chapter 10)
- consumer protection
 - equality legislation.
- 2.2 Explain the implications of the taxation of health and care insurance business for: (Chapter 9)
- policyholders
 - health and care insurance companies.
- 2.3 Describe regulatory frameworks for health and care insurance companies, including: (Chapters 10 and 14)
- objectives of regulators
 - financial reporting requirements
 - conduct of business rules
 - supervisory tools, including rulebooks and reporting requirements
 - statutory actuarial roles.

- 2.4 Demonstrate understanding of the over-arching Solvency II regulatory framework. (Chapters 11 and 12)
- 2.4.1 Describe the Solvency II framework in terms of:
- background and scope
 - structure
 - Pillar 2 governance requirements
 - Pillar 3 disclosure and reporting requirements
 - group reporting requirements.
- 2.4.2 Assess the implications of a regulatory framework such as Solvency II for business culture and strategy.
- 2.5 Compare regulatory, legislative and taxation environments between different jurisdictions. (Chapters 13 and 14)
- 2.6 Demonstrate how the regulatory, legislative and taxation environments affect the way in which health and care insurance companies carry out their business in practice. (Chapter 14)
- 2.7 Outline the requirements of actuarial standards in relation to actuaries practicing in or advising health and care operations. (Chapter 15)
3. Rating, pricing and underwriting (20%)
- 3.1 Demonstrate product design and pricing techniques. (Chapters 7 and 8)
- 3.1.1 Describe the requirements for the design of health and care insurance products to be marketed in a particular jurisdiction, including:
- policy conditions
 - capital requirements and return on capital
 - marketing, competition and distribution
 - management of risks
 - underwriting
 - reinsurance
 - investment policy
 - the renewal process and options
 - regulatory requirements.
- 3.1.2 Determine appropriate methods for pricing such products.

4. Valuation, ALM and reinsurance (20%)
- 4.1 Demonstrate solvency assessment techniques. (Chapters 11 – 13)
- 4.1.1 Outline the valuation of assets and liabilities and solvency capital requirements under Solvency II.
- 4.1.2 Compare solvency assessment approaches between different jurisdictions.
- 4.2 Demonstrate capital management techniques (Chapters 16 and 18)
- 4.2.1 Explain the different types of capital assessment.
- 4.2.2 Describe the different sources of capital.
- 4.2.3 Discuss the assessment of ongoing solvency, including practical modelling considerations.
- 4.2.4 Explain the relationship between capital, risk and economic value.
- 4.2.5 Propose methods of improving available capital.
- 4.2.6 Describe the principles of asset-liability management and the use of derivatives.
- 4.3 Evaluate the uses and benefits of reinsurance support in health and care insurance: (Chapter 17)
- control of risks
 - financing
 - technical assistance
 - reinsurance impact
 - badging.
- 4.4 Analyse the asset-liability matching requirements of a health and care insurer and develop appropriate strategies. (Chapter 18)
5. Monitoring and strategy (20%)
- 5.1 Analyse the experience and surplus/profit of a health and care insurer arising over a period. (Chapters 19 and 20)
- 5.2 Propose possible actions that should be taken following an analysis of experience or surplus / profit, including capital management and modelling considerations. (Chapters 22 and 23)

- 5.3 Understand the principles and practices that are relevant to the assessment of specific business strategies: (Chapter 21)
- assessment of the market for a new company launch
 - assessment of overseas markets
 - assessment of a company or portfolio for takeover.
6. Solving problems (Chapter 26)
- 6.1 Recommend coherent solutions and courses of action in relation to the overall financial management of health and care insurance companies.
- 6.1.1 Analyse complex problems in terms of actuarial, economic and financial factors to a level where appropriate analytical techniques may be used.
- 6.1.2 Assess the implications and relevance of such factors, integrating the results into a coherent whole.
- 6.1.3 Evaluate the results critically in a wider context, drawing appropriate conclusions.
- 6.1.4 Propose solutions and actions, or a range of possible solutions and actions, based on this evaluation.

Core Reading

The Subject SA1 Course Notes include the Core Reading in full, integrated throughout the course.

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 this Core Reading.

Further reading

The exam will be based on the relevant Syllabus and Core Reading and the ActEd course material will be the main source of tuition for students.

Details of further reading are given in Chapter 1: Introduction.

1.3 Subject SA1 – summary of ActEd products

The following products are available for Subject SA1:

- Course Notes
- X Assignments – six 100-mark tests (you are allowed 3¼ hours to complete these)
- Series X Marking
- Mini Online Classroom – over 25 tutorial units
- 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 www.ActEd.co.uk for full details about available eBooks, software requirements and restrictions.

The following tutorials are typically available for Subject SA1:

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

Full details are set out in our *Tuition Bulletin*, which is available on our website at www.ActEd.co.uk.

1.4 Subject SA1 – skills and assessment

Exam skills

Exam question skill levels

In the Specialist Advanced subjects, the approximate split of assessment across the three skill types is:

- Knowledge – 20%
- Application – 50%
- Higher Order skills – 30%.

Assessment

The Specialist Advanced examinations are in the form of 3¼-hour examinations.

1.5 Subject SA1 – frequently asked questions

Q: *What knowledge of earlier subjects should I have?*

A: The Course Notes have been written assuming that you have already studied, or been exempted from the Core Principle subjects (previously the CT subjects). Subject CP1 (Actuarial Practice, previously Subject CA1) covers the general underlying principles affecting all specialisms. The principles of Subject SP1 (previously Subject ST1) are fundamental to this course.

Q: *What is your advice if I am simultaneously studying Subject SP1?*

A: If you decide to study for Subjects SP1 and SA1 in the same session do not underestimate the work involved and the need for a mature understanding of the health and care industry.

Subject SA1 builds on the common principles developed in Subject SP1, but requires a much greater depth of knowledge and understanding. Consequently, there is a degree of overlap between the two subjects – both in the Core Reading and also possibly in the types of questions that are likely to appear on the exam papers. It is therefore important to assimilate the key ideas presented in Subject SP1 before tackling the same ground in Subject SA1.

We suggest that you aim to cover the Subject SP1 course as quickly as possible, so as to get a general feel for the principles together with an overview of the course content. It also makes sense to quickly review the relevant Subject SP1 material prior to working through each chapter in Subject SA1.

From time to time over the study session, and particularly at the revision stage, it might also be a good idea to review the Subjects SP1 & SA1 Course Notes at the same time, along with the Assignments and past exam papers. In particular, it is always worth thinking about how each idea or principle is presented in each of SP1 and SA1 and hence how it might consequently be examined in either exam.

Q: *What should I do if I discover an error in the course?*

A: If you find an error in the course, please check our website at:

www.ActEd.co.uk/paper_corrections.html

to see if the correction has already been dealt with. Otherwise please send details via email to **SA1@bpp.com**.

Q: *Who should I send feedback to?*

A: We are always happy to receive feedback from students, particularly details concerning any errors, contradictions or unclear statements in the courses.

If you have any comments on this course in general, please email to **SA1@bpp.com**.

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

2.1 Before you start

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

- a copy of the **Formulae and Tables for Examinations of the Faculty of Actuaries and the Institute of Actuaries, 2nd Edition (2002)** – these are referred to simply as the *Tables*
- an 'authorised' **scientific calculator** – you will find the list of permitted calculators on the profession's website. Please check the list carefully, since it is reviewed each year.

These are both available from the Institute and Faculty of Actuaries' eShop. Please visit www.actuaries.org.uk.

2.2 Core study material

This section explains the role of the Syllabus, Core Reading and supplementary ActEd text. It also gives guidance on how to use these materials most effectively in order to pass the exam.

Some of the information below is also contained in the introduction to the Core Reading produced by the Institute and Faculty of Actuaries.

Syllabus

The Syllabus for Subject SA1 has been produced by the Institute and Faculty of Actuaries. The relevant individual syllabus objectives are included at the start of each course chapter and a complete copy of the Syllabus is included in Section 1.2 of this Study Guide. We recommend that you use the Syllabus as an important part of your study.

Core Reading

The Core Reading has been produced by the Institute and Faculty of Actuaries. The purpose of the Core Reading is to assist in ensuring that tutors, students and examiners have clear shared appreciation of the requirements of the Syllabus for the qualification examinations for Fellowship of the Institute and Faculty of Actuaries.

The Core Reading supports coverage of the Syllabus in helping to ensure that both depth and breadth are re-enforced. It is therefore important that students have a good understanding of the concepts covered by the Core Reading.

In examinations, students will be expected to demonstrate their understanding of the concepts in the Core Reading; this will be based on the legislation, professional guidance *etc* that are in force when the Core Reading is published, *ie* on 31 May in the year preceding the examinations.

Therefore the exams in April and September 2021 will be based on the Syllabus and Core Reading as at 31 May 2020. We recommend that you always use the up-to-date Core Reading to prepare for the exams.

Examiners will have this Core Reading when setting the papers. In preparing for examinations, students are recommended to work through past examination questions and will find additional tuition helpful. The Core Reading will be updated each year to reflect changes in the Syllabus, to reflect current practice, and in the interest of clarity.

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 this Core Reading.

ActEd text

Core Reading deals with each syllabus objective and covers what is needed to pass the exam. 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

UK Practice Modules

Some students (primarily those who anticipate working in the UK in a reserved role) who take an SA subject exam will also be taking the online UK Practice Module exam. (As not every student will be taking the UK Practice Module, this course does not refer to it other than in this Study Guide.)

The exam consists of generic and practice-area-specific multiple-choice questions.

The required reading for the practice-area-specific part of the module comprises the full SA subject Core Reading, together with an appendix that covers additional UK-specific aspects of practice that are not fully covered in the SA subject Core Reading.

Additional Core Reading has been produced by the Institute and Faculty of Actuaries for the generic part.

ActEd has been asked by the Institute and Faculty of Actuaries to sell the Core Reading, including the UK-specific appendix, which covers each part of the module.

More general information about the UK Practice Modules can be found at:

www.actuaries.org.uk/students/pages/uk-practice-modules

Copyright

All study material produced by ActEd is copyright and is sold for the exclusive use of the purchaser. The copyright is owned by Institute and Faculty Education Limited, a subsidiary of the Institute and Faculty of Actuaries. Unless prior authority is granted by ActEd, you may not hire out, lend, give out, sell, store or transmit electronically or photocopy any part of the study material. You must take care of your study material to ensure that it is not used or copied by anybody else.

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.

2.3 ActEd study support

This section gives a description of the products offered by ActEd.

Successful students tend to undertake three main study activities:

1. *Learning* – initial study and understanding of subject material
2. *Revision* – learning subject material and preparing to tackle exam-style questions
3. *Rehearsal* – answering exam-style questions, culminating in answering questions at exam speed without notes.

Different approaches suit different people. For example, you may like to revise material gradually over the months running up to the exams or you may do your revision in a shorter period just before the exams. Also, these three activities will almost certainly overlap.

We offer a flexible range of products to suit you and let you control your own learning and exam preparation. The following table shows the products that we produce. Not all products are available for all subjects.

LEARNING	LEARNING & REVISION	REVISION	REVISION & REHEARSAL	REHEARSAL
Course Notes	X Assignments Combined Materials Pack (CMP) X Assignment Marking Tutorials Online Classroom	Flashcards	Revision Notes ASET	Mock Exam Additional Mock Pack (AMP) Mock Marking

The products and services are described in more detail below.

‘Learning’ products

Course Notes

The Course Notes will help you develop the basic knowledge and understanding of principles needed to pass the exam. They incorporate the complete Core Reading and include full explanation of all the syllabus objectives, with worked examples and questions (including some past exam questions) to test your understanding.

Each chapter includes:

- the relevant syllabus objectives
- a chapter summary
- practice questions with full solutions.

‘Learning & revision’ products

X Assignments

The Series X Assignments are written assessments that cover the material in each part of the course in turn. They can be used to develop and test your understanding of the material.

Combined Materials Pack (CMP)

The Combined Materials Pack (CMP) comprises the Course Notes and the Series X Assignments.

CMP Upgrade

The purpose of the CMP Upgrade is to enable you to amend last year’s study material to make it suitable for study for this year.

Wherever possible, it lists the changes to the syllabus objectives, Core Reading and the ActEd material since last year that might realistically affect your chance of success in the exam. It is produced so that you can manually amend your notes. The upgrade includes replacement pages and additional pages where appropriate.

However, if a large number of changes have been made to the Course Notes and X Assignments, it is not practical to produce a full upgrade, and the upgrade will only *outline* the most significant changes. In this case, we recommend that you purchase a replacement CMP (printed copy or eBook) or Course Notes at a significantly reduced price.

The CMP Upgrade can be downloaded free of charge on our website at **www.ActEd.co.uk**.

A separate upgrade for eBooks is not produced but a significant discount is available for retakers wishing to re-purchase the latest eBook.

X Assignment Marking

We are happy to mark your attempts at the X assignments. Marking is not included with the Assignments or the CMP and you need to order it separately. You should submit your script as an attachment to an email, in the format detailed in your assignment instructions. You will be able to download your marker’s feedback via a secure link.

Don't underestimate the benefits of doing and submitting assignments:

- Question practice during this phase of your study gives an early focus on the end goal of answering exam-style questions.
- You're incentivised to keep up with your study plan and get a regular, realistic assessment of your progress.
- Objective, personalised feedback from a high quality marker will highlight areas on which to work and help with exam technique.

In a recent study, we found that students who attempt more than half the assignments have significantly higher pass rates.

There are two different types of marking product: Series Marking and Marking Vouchers.

Series Marking

Series Marking applies to a specified subject, session and student. If you purchase Series Marking, you will **not** be able to defer the marking to a future exam sitting or transfer it to a different subject or student.

We typically provide full solutions with the Series X Assignments. However, if you order Series Marking at the same time as you order the Series X Assignments, you can choose whether or not to receive a copy of the solutions in advance. If you choose not to receive them with the study material, you will be able to download the solutions via a secure link when your marked script is returned (or following the final deadline date if you do not submit a script).

If you are having your attempts at the assignments marked by ActEd, you should submit your scripts regularly throughout the session, in accordance with the schedule of recommended dates set out on our website at www.ActEd.co.uk. This will help you to pace your study throughout the session and leave an adequate amount of time for revision and question practice.

The recommended submission dates are realistic targets for the majority of students. Your scripts will be returned more quickly if you submit them well before the final deadline dates.

Any script submitted *after* the relevant final deadline date will not be marked. It is your responsibility to ensure that we receive scripts in good time.

Marking Vouchers

Marking Vouchers give the holder the right to submit a script for marking at any time, irrespective of the individual assignment deadlines, study session, subject or person.

Marking Vouchers can be used for any assignment. They are valid for four years from the date of purchase and can be refunded at any time up to the expiry date.

Although you may submit your script with a Marking Voucher at any time, you will need to adhere to the explicit Marking Voucher deadline dates to ensure that your script is returned before the date of the exam. The deadline dates are provided on our website at www.ActEd.co.uk.

Tutorials

Our tutorials are specifically designed to develop the knowledge that you will acquire from the course material into the higher-level understanding that is needed to pass the exam.

We run a range of different tutorials including face-to-face tutorials at various locations, and Live Online tutorials. Full details are set out in our *Tuition Bulletin*, which is available on our website at www.ActEd.co.uk.

Regular and Block Tutorials

In preparation for these tutorials, we expect you to have read the relevant part(s) of the Course Notes before attending the tutorial so that the group can spend time on exam questions and discussion to develop understanding rather than basic bookwork.

Depending on availability and demand, you may be able to choose **one** of the following types of tutorial:

- **Regular Tutorials** spread over the session
- a **Block Tutorial** held two to eight weeks before the exam.

Online Classroom

The Online Classroom acts as either a valuable add-on or a great alternative to a face-to-face or Live Online tutorial.

At the heart of the Online Classroom in each subject is a comprehensive, easily-searched collection of tutorial units. These are a mix of:

- teaching units, helping you to really get to grips with the course material, and
- guided questions, enabling you to learn the most efficient ways to answer questions and avoid common exam pitfalls.

The best way to discover the Online Classroom is to see it in action. You can watch a sample of the Online Classroom tutorial units on our website at www.ActEd.co.uk.

'Revision' products

Flashcards

For most subjects, there is **a lot of material** to revise. Finding a way to fit revision into your routine as painlessly as possible has got to be a good strategy. Flashcards are an inexpensive option that can provide a massive boost. They can also provide a variation in activities during a study day, and so help you to maintain concentration and effectiveness.

Flashcards are a set of A6-sized cards that cover the key points of the subject that most students want to commit to memory. Each flashcard has questions on one side and the answers on the reverse. We recommend that you use the cards actively and test yourself as you go.

The following questions and comments might help you to decide if flashcards are suitable for you:

- Do you have a regular train or bus journey?
Flashcards are ideal for regular bursts of revision on the move.
- Do you want to fit more study into your routine?
Flashcards are a good option for 'dead time', eg using flashcards on your phone or sticking them on the wall in your study.
- Do you find yourself cramming for exams (even if that's not your original plan)?
Flashcards are an extremely efficient way to do your pre-exam memorising.

If you are retaking a subject, then you might consider using flashcards if you didn't use them on a previous attempt.

'Revision & rehearsal' products

Revision Notes

Our Revision Notes have been designed with input from students to help you revise efficiently. They are suitable for first-time sitters who have worked through the ActEd Course Notes or for retakers (who should find them much more useful and challenging than simply reading through the course again).

The Revision Notes are a set of A5 booklets – perfect for revising on the train or tube to work. Each booklet covers one main theme or a set of related topics from the course and includes:

- Core Reading with a set of integrated short questions to develop your bookwork knowledge
- relevant past exam questions with concise solutions from the last ten years
- other useful revision aids.

ActEd Solutions with Exam Technique (ASET)

The ActEd Solutions with Exam Technique (ASET) contains our solutions to a number of past exam papers, plus comment and explanation. In particular, it highlights how questions might have been analysed and interpreted so as to produce a good solution with a wide range of relevant points. This will be valuable in approaching questions in subsequent examinations.

'Rehearsal' products

Mock Exam

The Mock Exam is a 100-mark mock exam paper that provides a realistic test of your exam readiness.

It is based on the Mock Exam from last year but it has been updated to reflect any changes to the Syllabus and Core Reading.

Additional Mock Pack (AMP)

The Additional Mock Pack (AMP) consists of two further 100-mark mock exam papers – Mock Exam 2 and Mock Exam 3. This is ideal if you are retaking and have already sat the Mock Exam, or if you just want some extra question practice.

Mock Marking

We are happy to mark your attempts at the mock exams. The same general principles apply as for the X Assignment Marking. In particular:

- Mock Exam Marking applies to a specified subject, session and student
- Marking Vouchers can be used for each mock exam paper. Marking vouchers have to be used for marking the AMP mocks and can be used for marking the Mock Exam.

Recall that:

- marking is not included with the products themselves and you need to order it separately
- you should submit your script via email in the format detailed in the mock exam instructions
- you will be able to download the feedback on your marked script via a secure link.

2.4 Study skills and assessment

The Subject SA exam

The SA subjects demand a very different study approach to that of the other subjects.

There is only one paper in each of the SA Subject exams, consisting of up to four questions. Although you still need to know the factual information you have covered in the Course Notes, the paper will predominantly be a test of higher level skills rather than a lengthy test of detailed factual knowledge. These higher level skills are:

- analysis
- synthesis
- critical judgement
- communication.

In order to become adept at these skills, more is required of you over and above simply reading the Course Notes and practising some questions.

There is likely to be less bookwork in the SA Subject exam than you have been used to in the SP Subject exams. More thinking and planning will be required in the exam room, which is difficult when you are under time pressure. You need to realise this and do something about it *before* you enter the exam room.

A greater understanding is needed of the material being covered, beyond what you read in the Course Notes. This means you should be prepared to read around the subject and be aware of current topics within the field of the subject.

You will need a good knowledge of how the course links together. In particular, you should be ready to discuss 'big' topics, such as risk, capital and return. In addition, you need to be able to assimilate efficiently all the necessary parts of both the subject SA and equivalent subject SP course, in order to prove you understand the subject fully. You will also need to employ your communication skills learned in Subject CP3.

Study skills

Overall study plan

We suggest that you develop a realistic study plan, building in time for relaxation and allowing some time for contingencies. Be aware of busy times at work, when you may not be able to take as much study leave as you would like. Once you have set your plan, be determined to stick to it. You don't have to be too prescriptive at this stage about what precisely you do on each study day. The main thing is to be clear that you will cover all the important activities in an appropriate manner and leave plenty of time for revision and question practice.

Aim to manage your study so as to allow plenty of time for the concepts you meet in this course to 'bed down' in your mind. Most successful students will probably aim to complete the course at least six weeks before the exam, thereby leaving a sufficient amount of time for revision. By finishing the course as quickly as possible, you will have a much clearer view of the *big picture*. It will also allow you to structure your revision so that you can concentrate on the important and difficult areas of the course.

You can also try looking at our discussion forum, which can be accessed at www.ActEd.co.uk/forums (or use the link from our home page at www.ActEd.co.uk). There are some good suggestions from students on how to study.

Study sessions

Only do activities that will increase your chance of passing. Try to avoid including activities for the sake of it and don't spend time reviewing material that you already understand. You will only improve your chances of passing the exam by getting on top of the material that you currently find difficult.

Ideally, each study session should have a specific purpose and be based on a specific task, *eg 'Finish reading Chapter 3 and attempt Practice Questions 3.4, 3.7 and 3.12'*, as opposed to a specific amount of time, *eg 'Three hours studying the material in Chapter 3'*.

Try to study somewhere quiet and free from distractions (*eg a library or a desk at home dedicated to study*). Find out when you operate at your peak, and endeavour to study at those times of the day. This might be between 8am and 10am or could be in the evening. Take short breaks during your study to remain focused – it's definitely time for a short break if you find that your brain is tired and that your concentration has started to drift from the information in front of you.

Order of study

We suggest that you work through each of the chapters in turn. To get the maximum benefit from each chapter you should proceed in the following order:

1. Read the syllabus objectives. These are set out in the box at the start of each chapter.
2. Read the Chapter Summary at the end of each chapter. This will give you a useful overview of the material that you are about to study and help you to appreciate the context of the ideas that you meet.
3. Study the Course Notes in detail, annotating them and possibly making your own notes. Try the self-assessment questions as you come to them. As you study, pay particular attention to the listing of the syllabus objectives and to the Core Reading.
4. Read the Chapter Summary again carefully. If there are any ideas that you can't remember covering in the Course Notes, read the relevant section of the notes again to refresh your memory.
5. Attempt (at least some of) the Practice Questions that appear at the end of the chapter.

It's a fact that people are more likely to remember something if they review it several times. So, do look over the chapters you have studied so far from time to time. It is useful to re-read the Chapter Summaries or to try the Practice Questions again a few days after reading the chapter itself. It's a good idea to annotate the questions with details of when you attempted each one. This makes it easier to ensure that you try all of the questions as part of your revision without repeating any that you got right first time.

Once you've read the relevant part of the notes and tried a selection of questions from the Practice Questions (and attended a tutorial, if appropriate) you should attempt the corresponding assignment. If you submit your assignment for marking, spend some time looking through it carefully when it is returned. It can seem a bit depressing to analyse the errors you made, but you will increase your chances of passing the exam by learning from your mistakes. The markers will try their best to provide practical comments to help you to improve.

To be really prepared for the exam, you should not only know and understand the Core Reading but also be aware of what the examiners will expect. Your revision programme should include plenty of question practice so that you are aware of the typical style, content and marking structure of exam questions. You should attempt as many past exam questions as you can.

Active study

Here are some techniques that may help you to study actively.

1. Don't believe everything you read. Good students tend to question everything that they read. They will ask 'why, how, what for, when?' when confronted with a new concept, and they will apply their own judgement. This contrasts with those who unquestioningly believe what they are told, learn it thoroughly, and reproduce it (unquestioningly?) in response to exam questions.
2. Another useful technique as you read the Course Notes is to think of possible questions that the examiners could ask. This will help you to understand the examiners' point of view and should mean that there are fewer nasty surprises in the exam room. Use the Syllabus to help you make up questions.
3. Annotate your notes with your own ideas and questions. This will make you study more actively and will help when you come to review and revise the material. Do not simply copy out the notes without thinking about the issues.
4. As you study each chapter, condense the *key points* (not whole chunks of text) on to a double side of A4 or less. This is essential as otherwise, when you come to revision, you will end up having to re-read the whole course again, and there won't be time.
5. Try to use memory aids, such as mind maps and acronyms, to help remember the material when you come back to it later.
6. Attempt the questions in the notes as you work through the course. Write down your answer before you refer to the solution.

7. Attempt other questions and assignments on a similar basis, *ie* write down your answer before looking at the solution provided. Attempting the assignments under exam conditions has some particular benefits:
 - It forces you to think and act in a way that is similar to how you will behave in the exam.
 - When you have your assignments marked it is *much* more useful if the marker's comments can show you how to improve your performance under exam conditions than your performance when you have access to the notes and are under no time pressure.
 - The knowledge that you are going to do an assignment under exam conditions and then submit it (however good or bad) for marking can act as a powerful incentive to make you study each part as well as possible.
 - It is also quicker than trying to write perfect answers.
8. Sit a mock exam four to six weeks before the real exam to identify your weaknesses and work to improve them. You could use a mock exam written by ActEd or a past exam paper.

You can find further information on how to study in the profession's Student Handbook, which you can download from their website at:

www.actuaries.org.uk/studying

Revision and exam skills

Revision skills

You will have sat many exams before and will have mastered the exam and revision techniques that suit you. However it is important to note that due to the high volume of work involved in Subject SA1, it is not possible to leave all your revision to the last minute. Students who prepare well in advance have a better chance of passing the exam on the first sitting.

We recommend that you prepare for the exam by practising a large number of exam-style questions under exam conditions. This will:

- help you to develop the necessary knowledge and understanding of the key principles described in the Core Reading
- highlight exactly which are the key principles that crop up time and time again in many different contexts and questions
- help you to practise the specific skills that you will need to pass the exam.

There are many sources of exam-style questions. You can use past exam papers, the Practice Questions at the end of each chapter (which include many past exam questions), assignments and mock exams.

Exam question skill levels

Exam questions are not designed to be of similar difficulty. The Institute and Faculty of Actuaries specifies different skill levels at which questions may be set.

Questions may be set at any skill level:

- Knowledge – demonstration of a detailed knowledge and understanding of the topic
- Application – demonstration of an ability to apply the principles underlying the topic within a given context
- Higher Order – demonstration of an ability to perform deeper analysis and assessment of situations, including forming judgements, taking into account different points of view, comparing and contrasting situations, suggesting possible solutions and actions, and making recommendations.

Command verbs

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 profession has produced a document, ‘Command verbs used in the Associate and Fellowship examinations’, to help students to understand what each command verb is asking them to do.

It also gives the following advice:

- The use of a specific command verb within a syllabus objective does not indicate that this is the only form of question which can be asked on the topic covered by that objective.
- The examiners may ask a question on any syllabus topic using any of the agreed command verbs, as are defined in the document.

You can find the relevant document on the profession’s website at:

www.actuaries.org.uk/studying/prepare-your-exams

Past exam papers

You can download some past exam papers and Examiners’ Reports from the profession’s website at **www.actuaries.org.uk**. However, please be aware that the majority of these exam papers are for the pre-2019 syllabus and so not all questions will be relevant.

The examination

IMPORTANT NOTE: The following information was correct at the time of printing, however it is important to keep up-to-date with any changes. See the profession’s website for the latest guidance.

For the written exam, the examination room will be equipped with:

- the question paper
- an answer booklet
- rough paper
- a copy of the *Tables*.

Remember to take with you:

- black pens
- an 'authorised' scientific calculator – please refer to www.actuaries.org.uk for the latest advice.

2.5 Queries and feedback

Questions and queries

From time to time you may come across something in the study material that is unclear to you. The easiest way to solve such problems is often through discussion with friends, colleagues and peers – they will probably have had similar experiences whilst studying. If there's no-one at work to talk to then use our discussion forum at www.ActEd.co.uk/forums (or use the link from our home page at www.ActEd.co.uk).

Our online forum 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. You could also use it to get ideas for revision or for further reading around the subject that you are studying. ActEd tutors will visit the site from time to time 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 relevant subject email address (see Section 1.5), 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 away from the office 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. Information about personal tuition is set out in our current brochure. Please email ActEd@bpp.com for more details.

Feedback

If you find an error in the course, please check the corrections page of our website (www.ActEd.co.uk/paper_corrections.html) to see if the correction has already been dealt with. Otherwise please send details via email to the relevant subject email address (see Section 1.5).

Each year our tutors work hard to improve the quality of the study material and to ensure that the courses are as clear as possible and free from errors. We are always happy to receive feedback from students, particularly details concerning any errors, contradictions or unclear statements in the courses. If you have any comments on this course please email them to the relevant subject email address (see Section 1.5).

Our tutors also work with the profession 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 education.services@actuaries.org.uk.