

Subject CB2

2021 Study Guide

Introduction

This Study Guide has been created to help you navigate your way through Subject CB2. It contains all the information you will need before starting to study Subject CB2 for the 2021 exams and you may also find it useful to refer to throughout your Subject CB2 journey.

The guide is split into two parts:

- Part 1 contains specific information about Subject CB2
- Part 2 contains general information about the Core Business 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.

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1.1 Subject CB2 – background and contents

History

The Business subjects (Subjects CB1, CB2 and CB3) were introduced in the Institute and Faculty of Actuaries 2019 Curriculum. ActEd is not involved in the delivery of Subject CB3.

Subject CB2 is *Business Economics*.

Predecessors

The topics in the Business subjects (Subjects CB1 and CB2) cover content previously in Subjects CT2 and CT7:

- Subject CB1 replaces Subject CT2.
- Subject CB2 replaces Subject CT7.

Exemptions

In order to be eligible for a pass in Subject CB2, you will need:

- to have passed or been granted an exemption from Subject CT7 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

- Subjects CB1 and CB3 – Business Finance and Business Management are the other subjects in the *Business* module.
- Subject CM2 – Financial Engineering and Loss Reserving, which covers the principles of actuarial modelling, the behaviour of financial markets, and the pricing of financial products.
- Subject CP1 – Actuarial Practice, which builds on basic economic relationships to explore the impact of the economic environment on the investment markets.
- Subject SP5 – Investment and Finance Principles, which covers the key principles of evaluating, selecting and risk managing a portfolio of investments.
- Other Specialist Principles subjects and all the Specialist Advanced subjects require the use of economic judgement.

Contents

There are three parts to the Subject CB2 course. The parts cover related topics and are broken down into modules. At the end of each part there is an assignment testing the material from that part.

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

Part	Module	Title	No of pages	X Assignment	Tutorial – 3 days
1	1	Economic concepts and systems	14	X1	1
	2	Main strands of economic thinking	15		
	3	Supply and demand (1)	21		
	4	Supply and demand (2)	28		
	5	Background to demand	36		
	6	Background to supply	39		
	7	Perfect competition and monopoly	28		
	8	Monopolistic competition and oligopoly	27		
	9	Pricing strategies	24		
2	10	Market failure and government intervention	37	X2	2
	11	The macroeconomic environment	26		
	12	Macroeconomic objectives	25		
	13	International trade and payments	24		
	14	The financial system and the money supply	32		
	15	The money market and monetary policy	18		
3	16	Classical and Keynesian theory	55	X3	3
	17	Monetarist and new classical schools, and Keynesian responses	28		
	18	Relationship between the goods and money markets	30		
	19	Supply-side policy	17		
	20	Demand-side policy	23		
	21	Exchange rate policy	26		
	22	Global harmonisation and monetary union	15		
	23	Summary of debates on theory and policy	23		

1.2 Subject CB2 – Syllabus and Core Reading

Syllabus

The Syllabus for Subject CB2 is given here. To the right of each objective are the module numbers in which the objective is covered in the ActEd course.

Aim

The aim of the Business Economics subject is to introduce students to the core economic principles and how these can be used in a business environment to help decision making and behaviour.

It provides the fundamental concepts of microeconomics that explain how economic agents make decisions and how these decisions interact.

It explores the principles underlying macroeconomics that explain how the economic system works, where it fails and how decisions taken by economic agents affect the economic system.

Competences

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

1. show a systematic knowledge and critical awareness of economic theory in the areas of syllabus covered by the subject
2. apply a range of techniques to solve problems in the areas of syllabus covered by the subject
3. appreciate recent developments and methodologies in economics
4. understand the relevance of economic theory to the business environment and the links between economic theory and its application in business
5. apply basic microeconomic and macroeconomic theory to business problems.

Syllabus topics

- | | | |
|----|--|-------|
| 1. | Economic models and recent historical applications | (10%) |
| 2. | Microeconomics | (45%) |
| | <ul style="list-style-type: none"> • behaviour of consumers • behaviour of firms • behaviour of markets | |
| 3. | Macroeconomics | (45%) |
| | <ul style="list-style-type: none"> • relationships between governments, markets and firms • government policies • international trade | |

These 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 which is expected
- the degree to which each topic area is more knowledge or application based.

Detailed syllabus objectives

1. Economic models and recent historical applications (10%)
 - 1.1 Discuss the relevance of economics to the world of business. (Module 1)
 - 1.1.1 Describe what is meant by opportunity cost and scarcity and their relevance to economic choice.
 - 1.1.2 Discuss the core economic concepts involved in choices made by businesses relevant to selection of outputs, inputs, technology, location and competition.
 - 1.1.3 Contrast microeconomics and macroeconomics.
 - 1.2 Assess the main strands of economic thinking: (Modules 2, 10, 16, 17 and 23)
 - classical
 - Marxian socialism
 - neo-classical, Keynesian, neo-Keynesian and post-Keynesian
 - monetarist
 - Austrian
 - 1.3 Analyse the recent macroeconomic history. (Modules 14, 15, 20, 22 and 23)
 - 1.3.1 Describe the progress of the world economy since the Great Depression, with a particular focus on:
 - a history of banking crises and irrational behaviour
 - consequences of banking crises
 - 1.3.2 Discuss the banking crisis of 2008, the Great Recession and recovery.
 - 1.3.3 Describe the effectiveness of monetary policy in the 2008 financial crisis and the governments' actions to combat recession.
 - 1.3.4 Discuss the aftershocks in Europe following the 2008 financial crisis.
 - 1.3.5 Assess the stimulus-austerity debate and regulatory action after the 2008 crisis.

2. Microeconomics – the behaviour of consumers, firms and markets (45%)
- 2.1 Discuss the workings of competitive markets. (Modules 3 and 4)
- 2.1.1 Discuss how the markets operate:
- Explain the role of the price mechanism in a free market.
 - Discuss the behaviour of firms and consumers in such markets.
- 2.1.2 Describe the factors that influence the market demand and supply.
- 2.1.3 Describe and discuss how market equilibrium quantity and price are achieved.
- 2.1.4 Discuss how markets react to changes in demand and supply.
- 2.1.5 Define and calculate price and income elasticities of demand and price elasticity of supply:
- Calculate elasticities of demand using both original and average quantities.
- 2.1.6 Discuss the factors that affect elasticity.
- 2.1.7 Explain the effect of elasticity on the workings of markets in the short and long run.
- 2.1.8 Discuss how firms deal with risk and uncertainty about future market movements.
- 2.1.9 Describe price expectations and speculation and how price bubbles develop.
- 2.2 Discuss consumer demand and behaviour. (Module 5)
- 2.2.1 Describe the concept of utility and representation of consumer preferences as indifference curves.
- 2.2.2 Discuss rational choice and how optimal consumption choice is determined by using indifference curves and budget lines.
- 2.2.3 Discuss the concepts of rational choice, perfect information and irrational behaviour in behavioural economics.
- 2.3 Discuss the importance of advertising for a firm. (Module 4)
- 2.3.1 Explain the effects of advertising on sales and demand.

- 2.4 Discuss the production function, costs of production, revenue and profit in order to understand a firm's price and output decisions. (Module 6)
- 2.4.1 Explain how the production function reflects the relationship between inputs and outputs in the short and long run.
- 2.4.2 Define average and marginal physical product.
- 2.4.3 Describe the meaning and measurement of costs and explain how these vary with output in the short and long run.
- 2.4.4 Define total, average and marginal costs.
- 2.4.5 Describe what is meant by 'economies of scale' and explain the reasons for such economies and how a business can achieve efficiency in selecting the level of its inputs.
- 2.4.6 Describe revenue and profit and explain how both are influenced by market conditions.
- 2.4.7 Define and calculate average and marginal revenue.
- 2.4.8 Describe how profit is measured and explain how the firm arrives at its profit-maximising output.
- 2.4.9 Explain what is meant by the 'shut-down' point in the short and long run.
- 2.5 Discuss profit maximisation under perfect competition and monopoly. (Module 7)
- 2.5.1 Explain what determines the market power of a firm.
- 2.5.2 Describe the main features of a market characterised by perfect competition.
- 2.5.3 Explain how output and price are determined in such markets in the short and long run.
- 2.5.4 Describe how monopolies emerge, how a monopolist selects its profit-maximising price and output and how much profit a monopolist makes.
- 2.5.5 Describe the barriers to entry in an industry and a contestable market and explain how these affect a monopolist's profit.

- 2.6 Discuss profit maximisation under imperfect competition. (Module 8)
 - 2.6.1 Describe the behaviour of firms under monopolistic competition and explain why in this type of market only normal profits are made in the long run.
 - 2.6.2 Describe the main features of an oligopoly and explain how firms behave in an oligopoly.
 - 2.6.3 Discuss what determines competition and collusion of firms in an oligopoly and how the strategic decisions of such firms can be explained by game theory.
 - 2.6.4 Discuss whether firms in an oligopoly act in consumers' interest.
- 2.7 Assess various pricing strategies that firms can adopt. (Module 9)
 - 2.7.1 Describe how prices are determined in practice and factors that affect the ability of a firm to determine its prices.
 - 2.7.2 Describe average-cost pricing and price discrimination.
 - 2.7.3 Discuss the pricing strategy for multiple products and explain how pricing varies with the stage in the life of a product.
- 3. Macroeconomics – relationships between governments, markets and firms, government policies and international trade (45%)
 - 3.1 Discuss the reasons for government intervention in the market. (Module 10)
 - 3.1.1 Explain and discuss the extent to which businesses meet the interests of consumers and society in general.
 - 3.1.2 Explain in what sense perfect markets are 'socially efficient' and why most markets fail to achieve social efficiency.
 - 3.1.3 Explain why externalities can lead to inefficient markets.
 - 3.1.4 Describe the ways in which governments intervene in markets in order to influence business behaviour and explain the drawbacks of such intervention.
 - 3.1.5 Explain and discuss whether taxation or regulation could be more useful in correcting markets' shortcomings.
 - 3.2 Discuss the relationship between the government and the individual firm. (Modules 10 and 19)
 - 3.2.1 Describe the main targets of 'competition policy' and explain the extent to which it is effective.
 - 3.2.2 Explain why a free market fails to achieve the optimal amount of research and development.
 - 3.2.3 Describe the various forms of intervention that the government can undertake in order to encourage technological advance and innovation.

- 3.3 Discuss globalisation and multinational business. (Module 22)
 - 3.3.1 Describe what is meant by globalisation and its impact on business.
 - 3.3.2 Explain what is driving the process of globalisation and whether the world benefits from globalisation of business.
- 3.4 Discuss the importance of international trade. (Module 13)
 - 3.4.1 Describe the growth of international trade and its benefits to countries and firms.
 - 3.4.2 Explain the advantages of specialisation.
 - 3.4.3 Discuss the arguments for trade restriction and protection of domestic industries.
 - 3.4.4 Explain the role of the World Trade Organisation (WTO) in international trade.
- 3.5 Discuss the macroeconomic environment of the business. (Modules 11, 12 and 16)
 - 3.5.1 Describe the main macroeconomic variables that governments seek to control.
 - 3.5.2 Explain what determines the level of economic activity and hence the overall business climate.
 - 3.5.3 Describe the effect on business output if a stimulus is given to the economy.
 - 3.5.4 Contrast actual and potential growth.
 - 3.5.5 Describe the factors that determine economic growth and explain the reasons for differences in different nations' growth rates.
 - 3.5.6 Discuss the relationship between economic growth and environmental sustainability.
 - 3.5.7 Describe why economies experience periods of boom followed by periods of recession and explain factors that influence the length and magnitude of the phases of a business cycle.
 - 3.5.8 Describe the causes and costs of unemployment and how unemployment relates to the level of business activity.
 - 3.5.9 Discuss the determination of the price level in the economy by the interaction between aggregate supply (AS) and aggregate demand (AD) in a simple AS-AD model.
 - 3.5.10 Describe the causes and costs of inflation and how inflation relates to the level of business activity.
 - 3.5.11 Explain what is meant by GDP and describe how it is measured.
 - 3.5.12 Discuss the representation of the economy as a simple model of the circular flow of income.

- 3.6 Discuss what is meant by the balance of payments and how exchange rates are determined. (Modules 13, 21 and 22)
- 3.6.1 Describe what is meant by 'the balance of payments' and how trade and financial movements affect it.
- 3.6.2 Explain how exchange rates are determined and how changes in exchange rates affect business.
- 3.6.3 Explain the relationship between the balance of payments and the exchange rates.
- 3.6.4 Discuss the advantages and disadvantages of fixed and floating exchange rates.
- 3.6.5 Explain how governments and/or central banks seek to influence the exchange rates.
- 3.6.6 Describe the implications of such actions for other macroeconomic policies and for business.
- 3.6.7 Describe the purpose and examine the effectiveness of monetary union and single currencies, with reference to the European Economic and Monetary Union, the Exchange Rate Mechanism and the creation of a single currency.
- 3.7 Discuss the role of money and interest rates in the economy. (Modules 14, 15 and 18)
- 3.7.1 Describe the function of money.
- 3.7.2 Describe what determines the amount of money in the economy, what causes it to grow and the role of banks in this process.
- 3.7.3 Discuss the concept of the money multiplier in the real world.
- 3.7.4 Describe how interest rates are determined.
- 3.7.5 Explain the relationship between money and interest rates.
- 3.7.6 Explain why central banks play a crucial role in the functioning of economies.
- 3.7.7 Describe how a change in the money supply and/or interest rates affects the level of business activity.

- 3.8 Discuss the role, structure and stability of the financial system. (Module 14)
 - 3.8.1 Describe the different financial systems.
 - 3.8.2 Evaluate how effectively different financial systems operate, with reference to the UK and China.
 - 3.8.3 Describe the role of the financial markets and how financial markets help to achieve a nation's objectives.
 - 3.8.4 Describe the different participants in the financial markets.
 - 3.8.5 Discuss the development of financial systems and the factors affecting the stability of financial systems.
- 3.9 Discuss what determines the level of business activity and how it affects unemployment and inflation. (Modules 12, 16, 17 and 18)
 - 3.9.1 Discuss how the equilibrium level of income is determined within a simple aggregate demand-expenditure model.
 - 3.9.2 Describe the concept of the multiplier and calculate its value.
 - 3.9.3 Describe the effect of a rise in money supply on output and prices.
 - 3.9.4 Describe the relationship between unemployment and inflation and whether the relationship is stable.
 - 3.9.5 Discuss how business and consumer expectations affect the relationship between unemployment and inflation and explain how such expectations are formed.
 - 3.9.6 Describe how a policy of targeting inflation affects the relationship between unemployment and inflation.
 - 3.9.7 Describe what determines the course of a business cycle and its turning points.
 - 3.9.8 Discuss whether the business cycle is caused by changes in aggregate demand, or changes in aggregate supply (or both).

- 3.10 Assess how macroeconomic policies impact on businesses. (Modules 15 and 20)
 - 3.10.1 Describe the types of macroeconomic policy that are likely to impact on business and explain the way in which this impact takes effect.
 - 3.10.2 Describe the impact of fiscal policy on the economy and business, and explain the factors that determine its effectiveness in smoothing out economic fluctuations.
 - 3.10.3 Describe the fiscal rules adopted by the government and discuss if following these rules is a good idea.
 - 3.10.4 Explain how monetary policy works in the UK and the Eurozone and describe the roles of the Bank of England and the European Central Bank.
 - 3.10.5 Explain how targeting inflation influences interest rates and hence the economic activity.
 - 3.10.6 Discuss the merits of following a simple inflation target as a rule for determining interest rates, and suggest an alternative rule.
- 3.11 Assess how supply-side policies impact on businesses. (Module 19)
 - 3.11.1 Describe the effect of supply-side policies on business and the economy.
 - 3.11.2 Describe the types of supply-side policies that can be pursued and discuss their effectiveness.
 - 3.11.3 Explain the impact on business of a policy of tax cuts.
 - 3.11.4 Describe the major types of policy open to governments to encourage increased competition.

Core Reading

Accreditation

The Core Reading consists of references to material from:

Sloman, J., Garratt, D., Guest, J., 2018, Economics, 10th ed., Pearson

ISBN: 978-1-292-18785-3 (print)

ISBN: 978-1-292-18790-7 (PDF)

ISBN: 978-1-292-18786-0 (ePub)

In addition, there are four extra sections of Core Reading, which are included within the relevant modules in the ActEd Course Notes.

Further reading

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

There is also further information available on the website linked to the textbook as well as relevant external websites (indicated at the end of some chapters of the textbook). This material is a useful source of additional material but it is not directly examinable.

1.3 Subject CB2 – summary of ActEd products

The following products are available for Subject CB2:

- Course Notes
- X Assignments – three assignments:
 - X1-X3: 100-mark tests (you are allowed 3¼ hours to complete these)
- Series X Marking
- Online classroom
- Flashcards
- Revision Notes – six A5 booklets
- ASET (2014-17 papers) – four years of exam papers, *ie* eight sittings, covering the period April 2014 to September 2017
- ASET (2019-20 papers) – two years of exam papers, *ie* four sittings, covering the period April 2019 to September 2020
- 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 CB2:

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

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

1.4 Subject CB2 – skills and assessment

Technical skills

Subjects CB1 and CB2 are more ‘wordy’ (and less mathematical) than the other Core Principles subjects.

Exam skills

Exam question skill levels

In Subject CB2, the approximate split of assessment across the three skill types is:

- Knowledge – 40%
- Application – 45%
- Higher Order skills – 15%.

Assessment

Assessment consists of a 3¼-hour examination involving objective test questions and ‘free-form’ answer questions.

1.5 Subject CB2 – frequently asked questions

Q: *I have an older edition of the textbook, rather than the current tenth edition. How does the new version differ from the old versions and what should I do to prepare for the new exam??*

A: There are a number of changes and additions to the textbook. The 2021 exams will be based on the tenth edition of the textbook, so we recommend that you use it.

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

A: No knowledge of earlier subjects is required.

Q: *What level of mathematics is required?*

A: There is some use of basic arithmetic and algebra in Subject CB2 and you may also need to use basic calculus.

Q: *What other skills are required?*

A: Diagrams are part of an economist's toolkit, so you need to be able to draw clear and accurate diagrams. You might want to buy a ruler and some fine-nib pens.

You also need to use language precisely. For example, the observation that 'prices are falling' is not the same as 'the inflation rate is falling'.

Q: *Should I read the various boxes in the textbook?*

A: The boxes are part of the Core Reading on which you will be tested. However, the guidance issued by the Profession states that you will *not be tested on the detail of illustrative examples* but on the *underlying theory and its application*. This suggests that you do not need to know all of the information in the boxes.

Some units include content on the mathematical application of the concepts. You do not need to know the theoretical derivation of formulae but you should understand the numerical examples and be able to do similar calculations.

Q: *Should I do the Review Questions in the textbook?*

A: Only if you find them interesting and *have the time*. It is probably more sensible to concentrate on practising the questions throughout and at the end of the modules, the assignments and, most importantly, the past exam papers. This is because these questions have been designed specifically to prepare you for the Subject CB2 exam and/or represent the types of questions you will actually need to answer in the Subject CB2 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 **CB2@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 **CB2@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 CB2 has been produced by the Institute and Faculty of Actuaries. The relevant individual syllabus objectives are included at the start of each course module 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.

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 and the textbook when setting the papers. In preparing for examinations, students are advised 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.

Textbook

Each module of the course covers one or more syllabus objectives.

Each module will refer to the relevant part(s) of the textbook. This material will be directly examinable **although you will not be tested on the detail of illustrative examples** (which may be country specific and may have been overtaken by events) **but on the underlying theory and its application.**

Some units include content on the mathematical application of the concepts. **You do not need to know the theoretical derivation of formulae but you should understand the numerical examples and be able to do similar calculations.**

The referenced material will sometimes cover objectives from other modules where it is useful to consider the material together.

There is also further information available on the website linked to the textbook as well as relevant external websites (indicated at the end of some chapters of the textbook). This material is a useful source of additional material but it is not directly examinable.

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

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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.

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.

Each module includes:

- the relevant syllabus objectives
- guidance on how to work through the Core Reading
- detailed checklists of the things you need to be able to do to pass the exam
- practice questions (including some past exam 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.

You can 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 relevant past exam questions with concise solutions from the last ten years, together with 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

Technical skills

The Core Reading and exam papers for these subjects tend to be very technical. The exams themselves typically have a range of questions, including calculations and diagrams, along with more 'wordy' questions. The emphasis in the exam will therefore be on *knowing* and *understanding* the main concepts, and being able to *apply* them to various, frequently unfamiliar, situations. Where there are calculations involved, it is important to have a feel for what the numerical answer should be by having a deep understanding of the material and by doing reasonableness checks.

The aim of the exams is to test your ability to apply your knowledge and understanding of the key principles described in the Core Reading to specific situations presented to you in the form of exam questions. Therefore your aim should be to identify and understand the key principles, and then to practise applying them. You will also need a good knowledge of the Core Reading to score well and quickly on any bookwork questions.

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 these courses to 'bed down' in your mind. Most successful students will probably aim to complete the courses at least a month before the exam, thereby leaving a sufficient amount of time for revision. By finishing the courses 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.

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 Module 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 Module 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 modules in turn. To get the maximum benefit from each module you should proceed in the following order:

1. Read the syllabus objectives. These are set out in the box at the start of each module.
2. Read the **introduction** to the module. We try to set the scene for the forthcoming module so that you know what's coming next. We might also place it in context with what has come before and/or what is still left to come. We will also state whether or not the material is new to Subject CB2.
3. For **each section**:
 - Read 'What's included in this section'. The main items identified here as bullet points will usually correspond to the main subheadings in the textbook. We have sometimes used different bullet points if we think our structure is more helpful in the context of the Subject CB2 Syllabus and exam.
 - Read 'Guidance'. This highlights a variety of issues, such as important concepts, beliefs and distinctions, common mistakes made by students, hints for drawing diagrams, important points that are mentioned in boxes but not in the main body of the text, topics that will be discussed in more detail in later modules and types of questions that have tended to be asked in the past.
 - Scan the 'Checklist' to gain a sense of the key learning objectives of reading the Core Reading.
 - Read the Core Reading in the textbook, being mindful of the objectives or tasks listed in the 'Checklist'.
 - Make your own notes (using the subheadings given in the 'What's included' section and the tasks listed in the 'Checklist') or review the ActEd flashcards.
 - Attempt the questions in the 'Questions' section. This is a **very important part of your study**. Tackling these questions should develop your knowledge and understanding and increase your confidence. We have tried to ensure good coverage of the Syllabus, have included lots of exam-style questions (including many past exam questions) and have included helpful hints and comments in the solutions.
 - Revisit your notes or the ActEd flashcards. Having attempted the questions, they should now make more sense to you. You might wish to annotate them.

4. When you have finished all of the sections, read the introduction to the module again, which could be used as a brief summary of the module.
5. Attempt the 'Practice Questions' at the end of the module. Most of these are exam-style questions and many are actual past exam questions. Again, this is a very important stage in your study.
6. When you have completed the above steps for each module, use the flashcards as a revision tool to ensure there are no gaps in your understanding of the course content. The flashcards have been designed to correspond to the checklists; there is at least one flashcard for most checklist items.

It's a fact that people are more likely to remember something if they review it several times. So, do look over the modules you have studied so far from time to time. It is useful to work through the checklists or to try the Practice Questions again a few days after reading the module 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. Attempt the questions in the modules as you work through the course. Write down your answer before you refer to the solution.
5. 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.
6. 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 the Core Principles subjects 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 their exams on the first sitting.

Unprepared students find that they are under time pressure in the exam. Therefore it is important to find ways of maximising your score in the shortest possible time. Part of your preparation should be to practise a large number of exam-style questions under timed exam conditions as soon as possible. This will:

- help you to develop the necessary understanding of the techniques required
- highlight the key topics, which crop up regularly 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 module (which include many past exam questions), assignments, mock exams, the Revision Notes and ASET.

Exam question skill levels

Exam questions are not designed to be of similar difficulty. The Institute and Faculty of Actuaries specifies different skill levels that questions 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 exams 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.