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Moving from modular to linear qualifications

A guide for teachers



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Cambridge qualifications, such as Cambridge IGCSE and Cambridge International AS and A Levels, are linear and that is one of their key principles. The linear approach means that learners take all exams at the end of the course, which gives more time for teaching and learning.

We have produced this guide to support teachers who are switching from modular to linear qualifications. It is particularly aimed at teachers around the world who teach UK GCSE and A Level. Following reforms announced by the UK government, both these qualifications are moving from a modular (or unitised) structure to a linear structure.

The trend towards linear qualifications is an exciting development for teachers and learners. Linear qualifications give teachers more freedom to plan the course and set the pace of study. This guide is designed to highlight things you will need to think about when moving from a modular course to a linear one, and suggests ways forward in planning, teaching and learning, and assessment.

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Modular and linear syllabuses: what are the differences?

Organisation of content, concepts and skills

Modular	Linear
Content is divided into a number of self-contained units.	Content is viewed as a whole – there is a more holistic approach.
Content units have well-defined and precise boundaries.	Content will usually be divided into different sections but these will not be totally self-contained.
Content is divided into a number of bite-sized chunks with no links between different topics.	Links between content are emphasised and encouraged.
In many subjects, each unit focuses on a limited range of concepts and skills.	The key concepts and skills usually underpin the entire course.

Examinations and resits

Modular	Linear
Learners can be examined on individual units during the course, usually in January and June, in both the first and second year of a two-year course. Therefore, a learner could sit exams in different units on four different occasions.	Learners sit all the exams at the end of the course. (If there is coursework, it may be completed during the course but will not be externally assessed or moderated until the end of the course.)
Each unit exam tests only the content, concepts and skills in one unit.	All components of the syllabus are assessed at the end of the course. So each exam paper is likely to test a range of concepts and skills, and questions are likely to link topics from different parts of the syllabus.
Some synoptic assessment is included, usually in a unit in the second year of the course. This is designed to help learners develop a holistic understanding of the subject, and retain content covered in the early units.	The synoptic element happens naturally because the key concepts and skills underpin the entire course.
Learners can resit individual units and many learners do this while they are completing later units. They are usually awarded the better mark achieved in the latest two sittings of that unit.	Learners cannot resit parts of the assessment. However, they can retake all the exam papers for the entire syllabus at a later date.

Impact on teaching and learning

Modular syllabuses

With modular syllabuses you make fewer decisions about the order to teach units and how much time to spend on each one. Modular syllabuses provide a clear, but inflexible, framework. The topics, concepts and skills for each unit are clearly defined and have to be covered by the time of the unit exams. This means that teaching and learning can focus on just one part of the course at a time. What to teach, and when to teach it, is clear – giving you confidence that you are ‘teaching to the test’.

Some learners find the short-term goals set by modular examinations manageable and motivating. They only have to cope with a limited number of topics, concepts and skills at any one time. Knowing that there is always an exam not far away can also encourage them to work hard and not let things drift.

The regular external exams can give you and your learners useful and objective evidence about progress being made.

Linear syllabuses

With linear syllabuses, you have greater freedom to plan the two-year course. You can choose the order of topics and set a pace of study that is appropriate for your learners. There is more teaching time available for a linear syllabus, because less time is taken up preparing for and taking externally set and marked examinations.

A linear syllabus also allows more time for learners to internalise and practise concepts, and build up their skills, before their external examinations. Research has found that many learners reach a higher standard at the end of a linear course than if they had studied a modular course.

Linear courses also encourage learners to refer to, and build on, knowledge that they have acquired early in the course, so that they arrive at the examination period with a much more holistic view of their subject. Modular courses, on the other hand, can make it more difficult for them to acquire a coherent picture of their subject, instead perceiving it as a series of disconnected fragments.

Many teachers say that, when teaching a linear syllabus, they notice a distinct change at some point during the course – often during the second term of the second year – when most learners seem to begin to see the subject holistically. This can be an exciting time for both learners and teachers.

It marks a moment when many learners take a significant step forwards in their understanding of the subject, and develop a much deeper appreciation of how various concepts link together. Their intrinsic abilities can show a dramatic improvement during this period. They begin to write much more perceptive answers to questions. They may find it easier to remember facts, because these are now seen as fitting neatly into an overall picture of the subject.

The removal of modular exams has a significant impact on teaching and learning:

- teaching is not constantly interrupted by assessments at the end of short modules
- knowledge, understanding and skills can be developed over a longer period of time
- key concepts and skills can be taught and revisited throughout the course, and links made between topics, leading to deeper learning
- there is time to innovate and explore those interesting side-roads that are adjacent, but not necessarily central, to the syllabus content
- without constant pressure from modular exams, weaker learners are given time to develop and stronger learners can read around the subject, pursue their individual interests and develop their skills as independent learners. This increases learners’ motivation and leads to deeper thinkers.

Linear syllabuses also bring coherence to assessment. The content, concepts and skills in the exam papers do not have to be isolated from each other, and learners may be able, where appropriate, to transfer knowledge, understanding and skills across these papers. Questions can make links between different topics.

Planning and teaching a linear syllabus

Planning and teaching a two-year linear course presents teachers with both greater challenges and more freedom. Decisions about the order that topics should be taught, how much time should be spent on each topic, and when and how to focus on particular understandings and skills, have to be made by you.

Many teachers welcome this as an opportunity to take back control of teaching and learning. It allows you to use, and improve, your professional skills.

Linear syllabuses also require that a more holistic approach is taken to course planning. The course needs to be thought about and planned as a whole. The relationship between different topics, regular revisiting of concepts and skills, and opportunities for formative assessment all need to be considered and planned.

Content

Planning content coverage for a linear syllabus is more complex than planning for a modular syllabus. With the modular approach, the unit content can often be forgotten once the unit examination is taken. The planning for a linear syllabus needs to be more holistic. Because all the examinations are at the end of the course, no topic can be forgotten about at any stage of the course. One approach to planning the coverage of the content is to:

- think about the best order to teach topics
- include opportunities for revisiting topics
- allow time for revision.

Linear syllabuses provide greater opportunities for all of these because less time is spent on preparing for and taking unit examinations. More time is available for more careful, and thorough, coverage of the course, and for encouraging deeper, and more joined-up, learning and thinking.



Sequence of topics

There are generally many different ways that the teaching of the subject could be organised.

Although many teachers will decide to follow the sequence of content as it is set out in the syllabus, there is no need to do this. It is important to consider progression, so that 'easier' topics are covered earlier in the course, and 'more difficult' ones dealt with later. Topics that include knowledge and concepts that will be used in other topics should come early in the course.

Many teachers find that they do not always get the order and timing exactly right when teaching a linear syllabus at first. Adjustments may need to be made during the course. After completing the course for the first time it is always a good idea to evaluate the order and timing and make necessary changes.

We make sure that plenty of support is available for Cambridge teachers. There are usually opportunities to discuss planning with trainers and other Cambridge teachers at our training events, during online courses and on the Cambridge discussion forums online. We provide schemes of work for many Cambridge IGCSE and Cambridge International AS and A Level subjects that offer guidance on planning and suggest sequences of topics.

Example sequence of topics: Cambridge International AS Level Chemistry

The AS part of the Cambridge International AS and A Level Chemistry course is divided into five units:

1. Theoretical Chemistry
2. Physical Chemistry
3. Inorganic Chemistry
4. Organic Chemistry I
5. Organic Chemistry II.

Each unit is designed to take about half a term of teaching. Unit 1 (Theoretical Chemistry) should be taught first, but after that the units can be taught in any order.

When planning the order of teaching you might want to consider the content of each unit to allow for a mix of practical and theoretical topics. For example, teaching the course consecutively from Unit 1 to 5 would bunch similar topics together and would lead to extended periods of little practical activity.

Alternating the units thus:

4. Organic > 2. Physical > 5. Organic II > 3. Inorganic
or

4. Organic > 2. Physical > 3. Inorganic > 5. Organic II
would be an alternative approach. Only a few topics from Unit 2, e.g. bond energies, need to be covered before Unit 4 is started. Much more of Unit 2 needs to be covered before Unit 3 is started, so we recommend that Unit 2 is taught before 3 and 5.

This example is taken from the Cambridge International AS Level Chemistry scheme of work overview.

Concepts and skills

There are often key concepts and skills that underpin the entire linear syllabus. There will also be concepts and skills that are closely related to a particular topic and also relevant to other parts of the syllabus. Even when a concept or skill is related to only one topic, learners should be given opportunities to revisit it to enhance their understanding.

Careful thought needs to be given to the development of learners' understanding and skills across the two years. This is very different from planning for a modular syllabus where a particular skill or concept might be restricted to one unit. In a linear syllabus, the whole range of learners' skills and understanding need to be developed throughout the course. This might involve covering a particular skill when teaching a part of the content where that skill will not be assessed in the exam. For example, in a history exam, learners might not be required to analyse historical sources in questions about the period 1919 to 1939, but this skill should still be developed during the teaching of that topic. Otherwise, learners could go for months without any further development of the skill.

Learners make progress in understanding and skills by being able to revisit them regularly and by having a reasonably long period of time to make progress. Linear syllabuses give learners two years to learn and develop and the entire two years should be used.

Helping learners to see the subject as a whole

In a linear syllabus, where all the content will be assessed at the end of the course, teaching and learning need to ensure that content covered early in the course remains in each learner's mind right up to the final examination period. There are several tactics that can help with this.

For example:

- You should constantly encourage learners to make links between the area of the subject that they are currently learning about, and topics covered earlier. This can be done in various ways, such as by oral questioning in class that starts from the current topic and leads learners back to earlier ones; or by setting tasks that ask learners to draw together ideas from past and current topics. This not only keeps earlier topics 'alive' in learners' minds, but also helps them to begin to see the subject as a whole.
- Some teachers like to plan their scheme of work as a 'spiral', where a topic is covered at a fairly simple level early in the course, and then revisited and dealt with at a higher level later on.
- Interim tests can revisit earlier topics. These tests can be quite short – perhaps a 10-question quick quiz on a topic covered one or two terms ago – or longer, more formal written assessments.

Schemes of work

A scheme of work needs to be produced showing how the course will be covered over the two years. The format of these will vary from subject to subject and school to school. Most schools and colleges like to develop their own schemes of work, but there are several places where sample schemes of work are available. Schemes of work for Cambridge IGCSE and Cambridge International AS and A Level subjects can be downloaded free from Teacher Support (see Appendix 2). These suggest ways of breaking the syllabus into smaller 'units', and provide ideas for teaching approaches to address each learning objective.

Many of our endorsed textbooks also contain schemes of work, and these may come with detailed teacher guidance notes, worksheets and interim assessments. These are often very useful sources of ideas, even if you do not want to follow the scheme in its entirety.

One straightforward format for a scheme of work uses the following headings:

Time/number of lessons	Learning outcomes	Learning activities/ assessment	Resources
Sets out how much time is needed.	Covers content, concepts and skills e.g. to understand the differences between the short-term and the long-term causes of the First World War.	Describes the actual activities learners will be involved in. Important to have a range of different types of activities. Also identifies opportunities for formative assessment.	Identifies the resources to be used. Important to have a range of different types of activities.

Formative assessment

Modular syllabuses give learners short-term goals and regular feedback through the results of unit examinations. Linear assessment provides opportunities for longer-term development of understanding and skills without the distractions of unit examinations and the accompanying retakes, but progress needs to be monitored through regular formative assessment.

You can build opportunities for formative assessment into the scheme of work, including:

- formal tests similar to the final examination papers
- exercises focused on part of the content or a particular concept or skill
- contributions to group work or class debate.

You can also create opportunities for peer and self-assessment.

These assessments identify progress, areas of strength and areas that need development for a whole class or, more often, for individual learners. You can use them to inform future teaching and learning. They are also useful for identifying areas that need a special focus during later revision and they provide useful evidence for reports to parents and construction of profiles for individual learners.

Revisiting

Linear syllabuses also make revisiting topics possible. Learners' understanding of a topic is often improved enormously when they are given the opportunity to revisit that topic. This can be achieved in several ways:

- by approaching the topic through different issues and questions from those used when it was first covered
- by exploring its links with other topics in the syllabus
- by exploring it at a higher conceptual level.

Revisiting is especially important for topics covered in the first year of the course. Learners' level of understanding of a topic will often be fixed at the level they were operating at when they covered that topic. Once their conceptual understanding has developed, it is likely that a 'revisit' to a topic later in the course will develop a more sophisticated grasp of the topic.



Preparing for the examinations

All Cambridge syllabuses outline the course content, and contain assessment objectives and the scheme of assessment so you can see how the examinations are structured. The syllabuses for each subject can be found on our website at www.cie.org.uk

Revision

Taking all the examinations at the end of the course means that learners spend less time being formally assessed. It also means that time needs to be left towards the end of the course for revision.

Revision has a different purpose from 'revisiting'. Revisiting is for deepening and extending learners' knowledge and understanding. Revision is more about consolidating what learners already know and understand, and helping them to use this to fulfil the requirements of examinations.

It is important that learners revise by applying their knowledge and understanding to examination questions rather than just trying to memorise their notes. The greatest weakness of learners' examination answers is often not their lack of knowledge, but their failure to use it relevantly. Learners should also become thoroughly familiar with the layout and organisation of the examination papers to minimise the danger of rubric errors. They should also be clear about the different types of questions that appear and the different requirements of these questions.

Learners should also be aware that assessment in linear syllabuses tends to be more holistic than in modular assessment. This means that they have to be ready to make links between different parts of the syllabus and to use their understanding and skills across a range of contexts.

Interim assessment

It is important that learners are given the experience of 'mock examinations' – taking all, or nearly all the examination papers, in surroundings as close to the real examinations as possible.



Past papers and examiner reports

Past papers, mark schemes and examiner reports are available on our website and additional papers are available on Teacher Support. These are very useful for 'mock examinations', interim assessment and for obtaining detailed information on how an exam was marked, and how learners tended to perform on each question. Often the examiner will comment on how well learners coped with a question or will point out common errors.

Example candidate responses

Example candidate responses (standards booklets) are available for most Cambridge IGCSE and Cambridge International AS and A Level subjects on Teacher Support. They contain examples of examination questions and candidates' answers at different levels of performance.

They also include a commentary from an examiner on why an answer achieved the number of marks or grade awarded. You can use the example candidate responses to help you guide your learners in how to write good answers to particular styles of examination questions.

Appendix 1: Case study

This case study is based on teaching Cambridge IGCSE History but it has been designed to illustrate approaches that are applicable to many other subjects. Note: there are other content options in this syllabus.

Here is a summary of the main features of the Cambridge IGCSE History syllabus, followed by a suggested method of covering it over two years. The key elements of this plan include:

- revisiting content
- links between topics
- continuous coverage of all the assessment objectives
- opportunities for formative assessment
- plenty of time left for revision.

Following this is a brief extract from a sample Cambridge scheme of work.

Extract: Cambridge IGCSE History syllabus

Content

1. Core Content: International relations since 1919

- Were the peace treaties of 1919–23 fair?
- To what extent was the League of Nations a success?
- Why had international peace collapsed by 1939?
- Who was to blame for the Cold War?
- How effectively did the USA contain the spread of Communism?
- How secure was the USSR's control over Eastern Europe 1948–c.1989?
- How effective has the United Nations Organisation been?

2. Depth Study: Germany 1918–45

3. Coursework: Germany 1918–45

Assessment objectives

AO1 Recall, select, organise and deploy knowledge

AO2 Understanding concepts such as cause and change, and the motives and beliefs of people in the past

AO3 Understand, interpret, evaluate and use a range of historical sources

Scheme of assessment

Paper 1: Structured essay questions on the Core Content and Germany (AO1 and AO2).

Paper 2: Source analysis questions based on a pre-nominated topic from the Core Content: e.g. Were the peace treaties of 1919–23 fair? (mainly AO3).

Coursework: two assignments (AO1, AO2 and AO3).



Below is an example of how this syllabus could be covered over two years. It includes the features mentioned: revisiting content, regular and repeated coverage of concepts and skills, opportunities for formative assessment and revision.

Time allocation first year	Content	Assessment objectives (AOs)	Notes
Sept–Dec	Core Content: Were the peace treaties fair? To what extent was the League of Nations a success? Why had international peace collapsed by 1939? (Paper 1)	AO1, AO2 and AO3. Even though AO3 will not be assessed on much of this content in Paper 1, learners need to develop these skills over a period of time.	A range of exercises for formative assessment built in throughout.
Jan–March	Depth Study: Germany 1918–45 (Paper 1)	AO1, AO2 and AO3. It is advisable to cover all three AOs throughout the course.	Allows links to be made between the part of the Core already covered and the Depth Study. This allows Germany to be studied in the context of the international situation.
April–July	Core Content: Who was to blame for the Cold War? How effectively did the USA contain the spread of Communism? How secure was the USSR’s control over Eastern Europe? How effective has the UNO been? (Paper 1). End of year test.	AO1, AO2 and AO3.	Continues and completes the Core Content.
Sept–Dec	Coursework: Germany. Mock examination (the whole of the content for the examination has been covered).	AO1, AO2 and AO3.	Better to leave coursework until the second year when learners’ knowledge, understanding and skills have developed. But it needs to be completed before revision begins. Revisiting of Germany.
Jan–March	The peace treaties of 1919–23 (Paper 2).	AO1 and AO2, but mainly AO3. Although AO3 has been covered throughout the course, it can be the focus of learning here while revisiting the topic for Paper 2.	Revisiting this topic helps at this stage – it was the first topic covered. It also provides the content background for Paper 2.
Jan–March	Revision of the Core Content and the Depth Study	AO1, AO2 and AO3.	
April–May	Revision of the Core Content and the Depth Study	AO1, AO2 and AO3.	

Extract: Scheme of work

Below is an extract from the scheme of work for Cambridge IGCSE History. It provides examples of the following features:

- a range of different activities
- learning outcomes that combine content, concepts and skills
- several of the activities could be used for formative assessment.

Although the content being covered here is for Paper 1 only (AO1 and AO2) there is plenty of evidence of work for AO3 to ensure that learners have plenty of opportunity to develop their source skills.

Key Question 3: Why had international peace collapsed by 1939?

Learning outcomes	Learning activities/assessment opportunities	Resources (see resource lists on Teacher Support)
Able to understand that causal factors often interacted, and that some were more important than others.	Learners basically need to be able to understand the contribution of the following factors to the outbreak of war: the foreign policies of Germany in particular, but also Italy and Japan, and the failure by Britain and France to respond to these threats. It is important that learners appreciate that these factors interacted with one another and that some were more important than others.	<p>Good coverage in Kelly and Lacey, McAleavy, Walsh.</p> <p>An exercise analysing cartoons of the period can be found on www.activehistory.co.uk</p> <p>Useful exercises and worksheets on all aspects of this Key Question can be found in <i>Essential Modern World History: Teacher's Resource Book</i> by Ben Walsh.</p> <p>For links to websites on causes of World War 2, go to www.schoolhistory.co.uk</p>
To understand the development of German foreign policy. Chronology.	A useful way to begin is to trace the development of German foreign policy 1933–39. Learners need to be sure on the chronology of the main events. Get them to construct a time-line. This should cover how Hitler undoes parts of Versailles (disarmament, the Saar, the Rhineland) and the Anschluss, Czechoslovakia, Munich, the Nazi–Soviet Pact, and Poland.	<p>Detailed coverage of Hitler's foreign policy with links can be found on www.spartacus.schoolnet.co.uk</p> <p>This is covered well, following this pattern, in Kelly and Lacey.</p> <p>There is also a very clear explanation in McAleavy.</p> <p>There is also a useful timeline in Shephard Source exercise – Paper 2 June 2003 (Anschluss)</p>
To understand why a policy of appeasement was followed and to make an evaluation of the policy. Source interpretation and evaluation.	The next important issue to cover is why Hitler got away with it. At the centre of this is the debate about appeasement. Give the learners (in pairs) a pack of sources, some primary some secondary, some written and some cartoons, some pro-appeasement, some anti. Ask the learners to identify and explain which sources are pro and which are anti. Followed by class debate – was appeasement a mistake?	<p>See a document analysis exercise on appeasement at www.learningcurve.gov.uk</p> <p>Materials following this topic pattern can be found in Shephard.</p> <p>Source exercise – Paper 2 November 2003 (appeasement).</p>

Learning outcomes	Learning activities/assessment opportunities	Resources (see resource lists on Teacher Support)
To understand the roles played by the USA and the USSR.	The roles of the USA and USSR also need to be considered. Learners could consider which contributed most to the outbreak of war – the isolationism of the USA or the Soviet Union signing the Soviet–Nazi Pact?	There is a source exercise that asks this question in Kelly and Lacey.
To compare the relative importance of causal factors.	<p>All of the above needs to be brought together. A useful way of doing this is to ask: 'How far was Hitler's foreign policy to blame for the outbreak of war in 1939?'</p> <p>This could be done as an essay or as a source exercise. It should be made clear to learners that it requires them to compare the importance of Hitler's foreign policy with that of other factors such as Versailles, the role of other countries, and appeasement.</p>	<p>Useful Paper 1 questions can be found in: June 1999, November 1999, June 2002, November 2003.</p> <p>There is an interactive exercise on the causes of World War 2 on www.activehistory.co.uk. It covers six causes and there are also some aids to essay writing.</p>



Appendix 2: Support from Cambridge

Cambridge teachers can draw on a wide range of support. You will find the following online resources useful:

Our website

To download Cambridge syllabuses, go to www.cie.org.uk/education

To find out more about Cambridge IGCSE, go to www.cie.org.uk/igcse

To find out more about Cambridge International AS and A Level, go to www.cie.org.uk/alevel

Training calendar

We offer training over the internet and face-to-face to help you plan and deliver Cambridge syllabuses. For a list of future courses, go to our website at www.cie.org.uk/events

Teacher Support

Teacher Support is a secure online resource bank and community forum for Cambridge teachers. You can download resources for free, including curriculum support and exam preparation materials. Go to <http://teachers.cie.org.uk>



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