AS/A Level GCE

GCE Critical Thinking

version 3 – September 2013

specification

Content

Vertical black lines indicate a significant change to the previous printed version.

1   About these Qualifications

This booklet contains OCR's Advanced Subsidiary GCE and Advanced GCE specifications in Critical Thinking for teaching from September 2013.

The Cambridge Assessment definition of Critical Thinking

Critical Thinking is the analytical thinking which underlies all rational discourse and enquiry. It is characterised by a meticulous and rigorous approach.

As and academic discipline, it is unique in that it explicitly focuses on the processes involved in being rational.

These processes include:

- analysing arguments
- judging the relevance and significance of information
- evaluating claims, inferences, arguments and explanations
- constructing clear and coherent arguments
- forming well-reasoned judgements and decisions.

Being rational also requires an open-minded yet critical approach to one's own thinking as well as that of others.

The study of critical thinking will equip candidates with reasoning skills to use in life, work and further academic study. It provides opportunities for candidates to think deeply, and in a structured way, about issues that are key to participating in society, e.g. ethical questions, cultural issues and issues of personal responsibility. It enables them to make reasoned decisions that are based on evidence and argument rather than assumption and prejudice.

The Advanced Subsidiary GCE specification gives an introduction to the concepts, principles and techniques that underlie critical thinking and expands their application to a range of contexts. It provides a discrete package of material, providing those candidates who do not wish to progress to A2 with a knowledge and understanding of critical thinking that is applicable to the study of a range of academic and vocational subjects.

The A2 part of the Advanced GCE specification incorporates greater depth of understanding, analysis and evaluation across a range of wider and more challenging contexts. It provides a foundation for further study of academic and vocational subjects, as well as forming part of a general education, or an enrichment programme, at Advanced Level. Candidates will find critical thinking skills of great benefit in preparing for a wide range of careers, including the fields of law, academic research (e.g. in the disciplines of science, arts and humanities), social science, journalism, medicine, business, accounting and engineering.

Courses based on these specifications should enable candidates to develop:

- an understanding of the principles, concepts and techniques of critical thinking;

- the skills of communication, problem-solving, analysis and evaluation;

- a framework for moral, social and ethical decision-making;

- a capacity for methodical and critical thought, which will serve as an end in itself as well as a basis for further study.

OCR has taken great care in the preparation of this specification and assessment material to avoid bias of any kind.

1.1   The Two-Unit AS

The Advanced Subsidiary GCE is both a 'stand-alone' qualification and the first half of the corresponding Advanced GCE. The AS GCE is assessed at a standard appropriate for candidates who have completed the first year of study (both in terms of teaching time and content) of the corresponding two-year Advanced GCE course, ie between GCSE and Advanced GCE.

From September 2013 the AS GCE is made up of **two** mandatory units, which are externally assessed and form 50% of the corresponding four-unit Advanced GCE.

1.2   The Four-Unit Advanced GCE

From September 2013 the Advanced GCE is made up of **two** mandatory units at AS and **two** further units at A2. The A2 units are also externally assessed.

1.3   Qualification Titles and Levels

These qualifications are shown on a certificate as:

- OCR Advanced Subsidiary GCE in Critical Thinking.

- OCR Advanced GCE in Critical Thinking.

Both qualifications are Level 3 in the National Qualification Framework (NQF).

1.4   Aims

Critical thinking is the analytical thinking which underlies all rational discourse and enquiry. It is characterised by a meticulous and rigorous approach. It involves the analysis and evaluation of information and argument; and the development of a range of intellectual skills that aid the use of reasoning to reach clear, logical and coherent judgements (conclusions) within a given context.

This specification gives candidates opportunities to:

- understand the importance of examining knowledge and beliefs critically;

- recognise, analyse and evaluate their own and others' beliefs and knowledge claims in a variety of contexts;

- recognise and evaluate assumptions;

- evaluate reasoning of different kinds, including common and important species of reasoning;

- make connections and synthesise information and arguments;

- generate their own arguments and express them clearly.

This Critical Thinking specification provides opportunities for candidates to: demonstrate and apply a wide range of thinking skills (especially reasoning skills) in a range of contexts; develop an ability to transfer these skills and make connections; integrate ideas and develop concepts; use arguments; make judgements and evaluate evidence; and examine questions from a broad standpoint.

1.5   Prior Learning/Attainment

There is no recommended prior learning for candidates who are taking courses leading to this qualification.

Candidates entering this course should normally have achieved at least a general educational level equivalent to National Curriculum Level 4. It is advised that at the start of the course candidates should have achieved GCSE English Language Grade C or above, or an equivalent standard.

Centres are particularly advised to consider whether Key Stage 4 candidates undertaking this course, for example as part of a gifted and talented programme, will have the maturity to be able to deal with the range of complex material and topics that will be presented in the question papers.

2 Summary of Content

These specifications seek to bring together the skills involved in thinking and arguing in a critical and logical way. The aim is to provide candidates with a framework, which can be applied in a practical manner to a range of materials, situations, problems and issues. There is no obvious major body of content to deliver, but rather a set of skills that candidates should be enabled to acquire.

Sections 2.1 and 2.2 define the course content at AS and A2 respectively. However, the synoptic nature of Critical Thinking (especially at A2) means that skills may be drawn on by units other than the one in which they are specifically identified. Courses should be designed to show interrelationships between the concepts and skills listed.

The A2 differs from the AS in the greater challenge it presents: through the nature and depth of the material studied; the greater complexity of the reasoning involved; the wider range of arguments and argument types; the variety of contexts and issues encountered; and the greater complexity of the concepts dealt with. At AS, candidates have opportunities to demonstrate the application of separate skills within short, straightforward arguments and develop their own simple further arguments; at A2, candidates are required to synthesize by applying a wider range of skills within a single task, and by producing their own cogent, structured arguments.

General Guidance

Specialist terminology: These specifications require understanding of terms that are in common use but have a specific meaning in the context of Critical Thinking, for example 'argument', 'assumption' and 'valid'. Teachers are advised to take this into account in preparing their teaching strategy. Some key terms are given below.

Critical thinking: is the analytical thinking which underlies all rational discourse and enquiry. It is characterised by a meticulous and rigorous approach. It involves the analysis and evaluation of information and argument; and the development of a range of intellectual skills that support the use of reasoning to reach clear, logical and coherent judgements (conclusions) within a given context.

Analysis of reasoning: to break reasoning down into its constituent parts (elements), labelling them, and understanding and describing the relationships of the elements with each other and to the whole. The elements are, for example, reason and conclusion.

Evaluation of reasoning: to judge whether the argument or reasoning is strong or weak – by identifying flaws (and their impact); assumptions (and their impact); sources; and the use of evidence, alternative explanations, consequences, etc.

Attention is drawn to the particular requirement for accuracy and precision in analysis and evaluation of a given argument in Critical Thinking.

It is useful if candidates are able to use common notations (R1, R2, C, Ev (evidence), Ex (example), CA (counter-assertion or counter-argument) for the component parts of an argument.

2.1   AS Units

Unit F501: *Introduction to Critical Thinking*

- The language of reasoning

- Credibility

Unit F502: *Assessing and Developing Argument*

- Analysis of argument

- Evaluating arguments

- Developing one's own reasoned arguments

2.2   A2 Units

Unit F503: *Ethical Reasoning and Decision-making*

- Ethical theories

- Recognising and applying principles

- Dilemmas and decision-making

Unit F504: *Critical Reasoning*

- Analysis of complex arguments

- Evaluating complex arguments

- Developing cogent and complex arguments

3   Unit Content

3.1   AS Unit F501: *Introduction to Critical Thinking*

Recommended Prior Knowledge

No specialist prior knowledge is required for Unit F501.

Guidance on Depth of Study

The unit is designed to give candidates an introduction to important skills within Critical Thinking, including an understanding of how arguments are constructed. The unit also covers the area of credibility; and recognizes that the plausibility of an argument, or the evidence used to support it, is also influenced by its origin, be that a person or an organisation

3.1.1 The Language of Reasoning

1   Candidates should be able to identify an argument (one or more reasons that give support to a conclusion); and to recognise that an argument has a structure, in the way that the reasons and conclusions are linked together.

2   Candidates should be able to identify the conclusion of an argument in source material.

3   Candidates should be able to explain the purpose of the following elements of an argument:

- reason;

- conclusion;

- counter-assertion;

- counter-argument;

- evidence in the form of survey/research data, statistics (percentages or proportions) and statistical representations and other numerical information;

- example.

4   Candidates should be able to identify and use a range of argument indicators (words that can signal the various components of an argument). These would include conclusion indicators, such as 'so', 'therefore' and 'consequently'; and reason indicators, such as 'because', 'since' and 'as'.

5   Candidates should be able to use a range of argument indicators to help analyse the structure of an argument, for instance to apply the 'therefore test' (inserting 'therefore' before a section of text as a test to help identify the presence of a conclusion).

6   Candidates should be able to identify the following argument elements in source material:

- reason;

- conclusion;

- counter-assertion;

- counter-argument;

- evidence;

- example;

- simple hypothetical reasoning, which takes the common 'if this, then that' form;

- assumptions.

7   Candidates should be able to evaluate evidence used in arguments by considering issues such as:

- the size of any survey sample quoted;

- the representative nature of any sample quoted;

- how and when the evidence was collected;

- the potential ambiguity of findings;

- alternative interpretations of statistics.

8   Candidates should be able to identify instances where reasons offer limited support to conclusions; and instances where reasons offer stronger support to conclusions.

9   Candidates should be able to demonstrate an understanding of the importance of the link between reasons and conclusions, by giving explanations of why a reason does or does not support a conclusion or by giving reasons that would support a given conclusion.

Note: When candidates are asked to identify parts of an argument they are expected to understand the need for accuracy in using the author's words, rather than producing a paraphrase or a summary. When candidates are asked to evaluate reasoning they are expected to make reference to the stimulus material in their answers.

3.1.2 Credibility

1   Candidates should be able to identify and assess different 'claims' in source material, for example by considering the plausibility of the claim and the evidence which supports or undermines the claim.

2   In the context of a simple scenario, candidates should be able to identify, demonstrate an understanding of, and apply appropriately, the following criteria for judging credibility:

- plausibility of claims or evidence;

- corroboration (e.g. of witness accounts);

- (in)consistency (within a witness account and inconsistency or conflict between different accounts);

- bias in situations where a one-sided account is given or when a person's background/experience disposes them to a particular point of view;

- expertise or experience of sources or witnesses;

- vested interest, when there would be a clear gain from telling the truth or misrepresenting the truth;

- ability to see or perceive, including an understanding of the relative reliability of primary sources (eye-witness testimony) compared to secondary sources, and a consideration of factors that could distract, disorientate or confuse an observer;

- neutrality, when a balanced account is given or when a person has no known connection to parties involved in the scenario;

- reputation (negative or positive), which could come from past performance and behaviour, or from commonly held opinion, in cases such as the police, doctors and broadcasters e.g. the BBC.

3   Candidates should be able to assess the credibility of evidence from individuals or organisations by:

- assessing the plausibility, extent and reasonableness of claims;

- giving reasons why a particular claim may or may not be plausible

- explaining how any claims are strengthened/weakened by particular credibility criteria;

- identifying and explaining what other information would be needed in order to reach a judgement about the credibility of a particular document or source.

4   Candidates should be able to compare and contrast the relative credibility of individuals or documentary evidence within a given scenario, by selecting and applying a range of credibility criteria.

Candidates should be able to make informed judgements about the most/least credible source within a scenario.

Candidates should be able to make a reasoned judgement about the probable course of events in a given scenario.

3.2   AS Unit F502: *Assessing and Developing Argument*

Recommended Prior Knowledge

It is expected that candidates should have studied Unit F501 *Introduction to Critical Thinking* before tackling this unit.

Guidance on Depth of Study

Unit F502 builds on the skills developed in Unit F501. Candidates will be asked to identify a wider range of argument components from stimulus material in order to assess the structure of the arguments presented.

Candidates will be expected to identify, explain or evaluate a range of potential weaknesses, flaws and other aspects of an argument. In doing so, candidates should demonstrate an understanding of the difference between challenging reasoning with counter-arguments or alternative explanations, and the more complex skill of explaining the strengths/weaknesses of the original reasoning.

Candidates will be asked to write their own arguments, in response to the stimulus material, and will be expected to demonstrate an understanding of the importance of clear structure as well as of ensuring that the content of an argument clearly supports the conclusion given.

3.2.1 Analysis of Argument

1   Candidates should be able to demonstrate understanding of, and use accurately, a range of specific terms relevant to Critical Thinking, including:

- counter

- challenge

- assess

- opinion

- belief

- knowledge

- reasoning

- refute

- repudiate

- infer and inference

- contradict and contradiction

- coherent

- structure

- strength and weakness

- support

- inconsistent and inconsistency

- consistent

- imply

- converse

- ambiguous

- drawing a conclusion.

2   In addition to those terms introduced in Unit F501, candidates should be able to identify and explain the purpose of the following components within an argument in source material:

- **intermediate conclusion**, that is, a conclusion drawn on the way to the main conclusion, supported by reasons, but acting itself as a reason for the main conclusion or other intermediate conclusions;

- **analogy**;

- **general principles** ('rule-like' statements, guidelines, instructions, etc that are not limited to specific situations and apply beyond the immediate circumstances of a particular argument);

3   Candidates should recognise and be able to explain the difference between an explanation and an argument.

4   Candidates should recognise that longer arguments may contain explanations as part of the argument.

3.2.2 Evaluating Arguments

1 Candidates should be able to assess strengths or weaknesses within arguments by:

- assessing the use of evidence in the form of survey/research data, statistics (percentages or proportions), statistical representations (average or mean) and other numerical information *(Note: In this unit, candidates will not be expected to assess the accuracy or validity of the evidence given)*;

- suggesting other conclusions that could reasonably be drawn from evidence used in an argument;

- assessing the impact of further or additional evidence on an argument;

- evaluating the use of analogies within arguments by:

  o identifying: the situations compared in the analogy; the conclusion drawn from the parallel reasoning; and significant similarities and dissimilarities between the situations;

  o explaining whether the analogy is strong enough to support the conclusion drawn in the argument;

- identifying and assessing examples used in the argument, by commenting on the relevance of the example (which may be a good or poor example); and by assessing the degree to which the example helps the author to make the point;

- identifying explanations given within an argument and offering reasonable alternatives;

- assessing the extent to which any hypothetical reasoning supports an argument;

- assessing the extent to which general principles apply in other situations and explaining where a general principle would not be applicable.

2 Candidates should recognise flaws (common, but erroneous patterns of reasoning where the conclusion is very unlikely to follow from the reasons given).

Candidates should be able to identify, by name (or other common equivalent), and explain the following flaws within an argument in source material:

- slippery slope;

- post hoc;

- circular argument (begging the question);

- false dichotomy or restricting the options;

- conflation;

- false cause/confusing cause and effect/simplifying causal relationships;

- reasoning from wrong actions ('*tu quoque*' or 'two wrongs don't make a right');

- confusing necessary and sufficient conditions;

- hasty or unwarranted or sweeping generalisation;

- circular argument;

- straw person (also known as 'straw man');

- *ad hominem*.

- arguing from one thing to another, unrelated conclusion.

(Note: It is not expected that candidates will be able to use the more formal term 'fallacy'

Candidates should be able to explain why a given conclusion is unlikely to follow from the reasons given because of a flaw in the argument.

3   Candidates should be able to identify an 'appeal' (a rhetorical device referring to swaying the audience by emotional persuasion rather than by rational argument). Candidates should be able to identify, by name (or other commonly recognised equivalent), and describe the following appeals within arguments:

- appeal to authority;

- appeal to tradition;

- appeal to history (where evidence of past performance is used to predict future performance);

- appeal to popularity (where the weight of numbers is used to support a conclusion);

- appeal to emotion (where rational argument is replaced by overtly emotional factors).

Candidates should be able to explain why an 'appeal' may not support a conclusion.

3.2.3 Developing One's Own Reasoned Arguments

Candidates should be able to produce their own arguments that either support or challenge a conclusion given in stimulus or other material. Candidates' own arguments should demonstrate a clear structure and contain a range of argument components, e.g.:

- three or more reasons that support an intermediate or main conclusion;

- intermediate conclusion;

- use of evidence or examples to support an argument;

- counter-assertion;

- counter-argument;

- elements such as hypothetical reasoning, general principles.

(NB Candidates are not expected to have extensive prior knowledge of the topic used in stimulus material. In choosing evidence or examples, they should use their own general knowledge.)

3.3   A2 Unit F503: Ethical Reasoning and Decision-making

Recommended Prior Knowledge

It is recommended that candidates should have studied Units F501 and F502 from AS Critical Thinking before tackling this unit.

Guidance on Depth of Study

Unit F503, together with Unit F504, offers synoptic assessment.

The unit requires candidates to apply skills developed in the AS Critical Thinking course in the context of the ethical and moral debates that are familiar in everyday life, for example debates about abortion, euthanasia, environmental, or political issues. Whilst candidates are expected to make use of a range of general principles in addressing such issues, it is not a requirement that candidates have detailed theoretical knowledge of ethical theories and principles. In approaching the content of this Unit, teachers may find it helpful to differentiate between moral concepts (e.g. the idea of duty), ethical theories (e.g. utilitarianism, egalitarianism) and ethical principles (e.g. we should treat people as equal).

In the examination for this Unit, marks will not be awarded for recall of theories, but for their application to the issues raised in the resource material.

Candidates will be able to use their learning and understanding from other subject areas e.g. sociology, politics, economics, business, literary study, religious studies, philosophy, and should

not feel limited in the range of principles that they draw upon: social, political and religious principles may be applied. However, an overview of some common ethical theories will be found helpful and a basic understanding of the theories of J. Rawls and J. S. Mill would be a starting point. Similarly, an understanding of the difference between teleological (or consequentialist) theories and deontological theories would also be most useful. (NB Candidates are not required to have detailed knowledge of any particular theory; in the examination they will be required to apply ethical theories of their own choice to a specified issue or situation. Teachers are advised to make use of some of the introductory texts listed in the 'Suggested Reading' on pages 37–38.)

In the examination, the use of a greater variety of source material and real topics will present the candidate with more complex analytical challenges than the AS question papers.

3.3.1 Ethical Reasoning

1   Candidates should be able to evaluate a range of source material and select appropriate ideas, comments and information to support their reasoning and analysis of complex moral and ethical problems. The source material could take the form of:

- factual information;

- definitions;

- opinion and argument;

- numerical and statistical information;

- tables, graphs and other visual presentations, such as scatter graphs and pie charts;

- statements from interested parties, such as religious, environmental, political and other activists, specialists or interest groups.

2   Candidates should be able to identify and evaluate conflicting ideas and arguments within a range of source material.

3   Candidates should be able to explain how ideas and arguments presented in the source material may be influenced by a range of factors such as social, political, religious or moral factors. (Concepts such as bias and vested interest, introduced in Unit F501, may be useful here.)

4   In addition to those common patterns of reasoning developed in Units 1 and 2, candidates should be able to identify, analyse and apply hypothetical reasoning.

5   Candidates should demonstrate understanding of the idea that there may be a range of different possible responses to complex moral and ethical problems, and that there may be many different criteria that can be applied in assessing the value and effectiveness of different solutions to complex moral and ethical problems e.g. public opinion, cost, practicality, social, political and environmental considerations.

Candidates should be able to apply a range of criteria to possible responses to complex moral and ethical problems in order to assess the value and effectiveness of those responses.

3.3.2 Dilemmas, Applying Principles and Decision-making

1   Candidates should demonstrate understanding of the nature of a dilemma (a situation where a choice must be made between equally unfavourable, or mutually exclusive, options, which will each result in undesirable consequences as well as benefits).

Candidates should be able to identify or construct dilemmas arising from issues in source material.

2   In response to real issues, candidates should be able to construct their own arguments, which:

- use appropriately and show understanding of a range of language relevant to moral and ethical problems such as: rights; needs; means, end, entitlement; deserts; values; good, deontological, consequentialist, elitist and altruistic;

- incorporate the different components of arguments (including sustained counter-argument and suppositional reasoning), have coherent structure and are cogent;

- apply hypothetical reasoning by assessing the likely consequences of a particular course of action and alternative courses of action;

- apply a range of principles, drawn from social, political, religious, scientific or ethical theories, including basic deontological and teleological ethical theories.

3.4 A2 Unit F504: *Critical Reasoning*

Recommended Prior Knowledge

Unit F504, together with Unit F503, offers a synoptic assessment. It is expected that candidates would normally study this unit at the end of their Critical Thinking course.

Guidance on Depth of Study

Unit F504 differs from previous units, and in particular, the AS units, by presenting a greater level of challenge, rather than by introducing new concepts and ideas. At AS candidates are asked to identify components of an argument whereas in Unit F504 candidates will be asked to analyse the structure of a short argument (or significant part of an argument) in detail, identifying elements, and commenting on the structure using words and/or a diagram. At AS candidates are directed to particular parts of text in order to assess strengths and weaknesses. In Unit F504, candidates are expected to be able to take an overview, identifying several issues, in an assessment of the strength (or weakness) of an entire argument.

Candidates will be presented with a wide range of material based on articles found in newspapers, journals, books and magazines, including diagrams, images and statistical data. They will also be expected to sift passages of argument from articles which, in themselves are not argument, and to follow a train of reasoning even though this may not be technically an argument. Candidates will therefore be expected to analyse and evaluate a wider range of forms of reasoning than those encountered at AS. (Teachers are reminded of the guidance on Analysis and Evaluation on page 7.)

Candidates are not expected to have extensive prior knowledge of the topic used in stimulus material. In choosing evidence or examples, they should use their own general knowledge, and may present examples in order to demonstrate the skills of supporting reasoning with evidence, or supporting a particular claim within an argument or passage of reasoning.

3.4.1 *Analysis and Evaluation of Complex Arguments*

1   Candidates should be able to analyse and describe the structure of complex arguments, or part arguments, identifying strands of reasoning. In addition to identifying elements of reasoning encountered in previous Units candidates, should recognise, identify and describe:

- assumptions;

- valid and invalid arguments;

- syllogisms;

- sustained suppositional reasoning;

- sustained counter-argument;

- the relationship between the various components in the argument, for instance, by explaining that a reason gives support for an intermediate conclusion or that examples/evidence have been used to support a reason;

- whether reasons act independently or jointly in supporting an intermediate or main conclusion;

- smaller arguments, counter-arguments and explanations;

- sections of text that are not part of the argument, but have other functions such as scene setting (identifying the topic of the argument), clarification, repetition, rhetorical statements or questions, etc.

(NB Candidates may use a diagram to outline the structure of an argument. If this approach is taken they should make clear which sections of text are represented in the diagram. However, diagrams are not essential and neither are they sufficient on their own.)

2 Candidates should be able to evaluate the strength or weakness of an argument, or part argument by:

- identifying and explaining any flaws in the reasoning;

- identifying and explaining the use in the reasoning of rhetorical means of persuasion, such as appeals;

- identifying and explaining any weaknesses in the way that evidence is presented or used in the reasoning;

- identifying any explanations and offering alternatives;

- identifying and assessing any assumptions needed by the argument;

- evaluating the impact of the use of analogy on the strength (or weakness) of the reasoning;

- suggesting alternative conclusions that could be drawn from the reasoning presented;

- evaluating and commenting on weakness or strength in an argument, such as reasons which give strong relevant support to a conclusion, or evidence which comes from a reliable/credible source and is relevantly used.

3 Candidates should demonstrate an understanding that a complex argument may have both strengths and weaknesses within it and be able to make a holistic evaluation of the reasoning.

3.4.2 Developing One's Own Cogent and Complex Arguments

Candidates should be able to form their own cogent arguments in response to source material. They should demonstrate the ability to select and use components of reasoning (including sustained response to counter-argument), and synthesise them, to create perceptive, complex, structured arguments.

4   Schemes of Assessment

4.1   AS GCE Scheme of Assessment

AS GCE Critical Thinking (H052)	
AS Unit F501: *Introduction to Critical Thinking*	
50% of the total AS GCE marks 1.5 h written paper 75 marks	Candidates answer **all** questions.
	Candidates will be presented with two or more passages, totalling around 900 words, and material presented in the form of diagrams or images.
	Candidates are required to analyse a simple argument by responding to short-answer questions and part-questions.
	Candidates are required to produce an analysis of the credibility of sources (individual characters and organisations) within a scenario. Candidates will respond to both short-answer questions and questions requiring more discursive answers.
	Unit F501 is worth a maximum of 75 marks.
	Quality of written communication is assessed under AO3 (ie Assessment Objective 3).
AS Unit F502: *Assessing and Developing Argument*	
50% of the total AS GCE marks 1.5 h written paper 75 marks	This paper has **two** sections and candidates answer **all** questions.
	Written source material will comprise a maximum of 3,000 words.
	Section A: Candidates are required to answer multiple-choice questions based on stimulus material in the form of short passages, charts or diagrams. The material may provide the stimulus for one or more questions. Section A is worth a maximum of 15 marks.
	Section B: Candidates are required to analyse a passage of approximately 500 words containing an argument. Candidates will be expected to respond with short answers. Section B is worth 30 marks.
	Section C: In addition to short-answer questions, candidates will be asked to write one or more further arguments. Section C is worth 30 marks.
	Quality of written communication is assessed under AO3 in Section C.

4.2   Advanced GCE Scheme of Assessment

Advanced GCE Critical Thinking (H452)

AS Units as above, Unit F501 being 25% of the total Advanced GCE marks and Unit F502 being 25% of the Advanced GCE marks.

A2 Unit F503: *Ethical Reasoning and Decision-making*	
25% of the total Advanced GCE marks 1.5 h written paper 60 marks	Candidates answer **all** questions.
	This question paper is based upon resource material, including graphs, charts and diagrams, drawn from real documents. These provide background to an exercise in applying general and ethical theories and principles to an issue. Questions will require short or more discursive answers. Unit F503 is worth a maximum of 60 marks.
	Quality of written communication is assessed under AO3.

A2 Unit F504: *Critical Reasoning*	
25% of the total Advanced GCE marks 1.5 h written paper 60 marks	Candidates answer **all** questions.
	This question paper consists of complex materials in the form of one or more passages, images, statistics, diagrams, etc, for analysis and evaluation by candidates. Questions will require short or more discursive answers. Candidates produce their own further argument in response to the material presented.
	Material is based upon real issues.
	Quality of written communication is assessed under AO3.
	Unit F504 is worth a maximum of 60 marks.

4.3   Unit Order

The normal order in which the unit assessments could be taken is AS Units in the first year of study, leading to an AS GCE award, then A2 Units leading to the Advanced GCE award. However, the unit assessments may be taken in any order.

Alternatively, candidates may take a valid combination of unit assessments at the end of their AS GCE or Advanced GCE course in a 'linear' fashion.

4.4   Unit Options (at AS/A2)

There are no optional units in the AS GCE specification; for AS GCE Critical Thinking candidates must take AS Units.

There are no optional units in the Advanced GCE specification; for Advanced GCE Critical Thinking candidates take AS Units *and* A2 Units.

4.5   Synoptic Assessment (A Level GCE)

Synoptic assessment is included wholly in the A2 Units.

Advanced GCE Critical Thinking involves the explicit drawing together and application of the knowledge, understanding and skills acquired and developed in different parts of the course. The questions set use a range of resources, including text, data and illustration, and require candidates to draw together skills from throughout the course and to demonstrate the transfer of skills.

Candidates are required to marshal evidence, select appropriate material, interpret and evaluate material and evidence in the context of the question, and generate further argument. They need to be able to integrate information, data, concepts, opinion, reasoning and argument within the context of the task set in the question.

4.6   Assessment Availability

There is one examination series each year in June.

From 2014, both AS units and A2 units will be assessed in June only.

4.7   Assessment Objectives

Candidates are expected to demonstrate the following in the context of the content described:

AO1   Analyse Argument

Analyse critically the use of different kinds of reasoning in a wide range of contexts;

AO2   Evaluate Argument

Evaluate critically the use of different kinds of reasoning in a wide range of contexts;

AO3   Develop own Arguments

Develop and communicate relevant and coherent arguments clearly and accurately in a concise and logical manner.

NB In Critical Thinking the three assessment objectives are inter-dependent. It is not, therefore, feasible to assess them entirely discretely. Accordingly, the weightings indicated in the tables below are approximate.

AO weightings in AS GCE

Unit	% of AS GCE			Total
	AO1	AO2	AO3	
AS Unit F501: *Introduction to Critical Thinking*	17.5	17.5	15	50%
AS Unit F502: *Assessing and Developing Arguments*	15	15	20	50%
	32.5%	32.5%	35%	100%

AO weightings in Advanced GCE

Unit	% of Advanced GCE			Total
	AO1	AO2	AO3	
AS Unit F501: *Introduction to Critical Thinking*	8.75	8.75	7.5	25%
AS Unit F502: *Assessing and Developing Arguments*	7.5	7.5	10	25%
A2 Unit F503: *Ethical Reasoning and Decision-making*	6	8	11	25%
A2 Unit F504: *Critical Reasoning*	8	8	9	25%
	30.25%	32.25%	37.5%	100%

4.8 Quality of Written Communication

Quality of written communication is assessed in all units. Precision and accuracy of communication is essential to Critical Thinking and credit may be restricted if communication is unclear.

Candidates will:

- ensure that text is legible and that spelling, punctuation and grammar are accurate so that the meaning is clear;

- select and use a form and style of writing appropriate to purpose and to complex subject matter;

- organise information clearly and coherently, using specialist vocabulary when appropriate.

AO3 requires candidates to develop and communicate relevant and coherent arguments clearly and accurately in a concise and logical manner.

Quality of written communication will be assessed in written answers in all units. Assessment of quality of written communication will be subsumed within AO3.

5   Technical Information

5.1   Making Unit Entries

Please note that centres must be registered with OCR in order to make any entries, including estimated entries. It is recommended that centres apply to OCR to become a registered centre well in advance of making their first entries. Centres must have made an entry for a unit in order for OCR to supply the appropriate forms or moderator details for coursework.

It is essential that unit entry codes are quoted in all correspondence with OCR. See Sections 4.1 and 4.2 for these unit entry codes.

5.2   Making Qualification Entries

Candidates must enter for qualification certification separately from unit assessment(s). If a certification entry is **not** made, no overall grade can be awarded.

Candidates may enter for:

- AS GCE certification (entry code H052).

- Advanced GCE certification (entry code H452).

A candidate who has completed all the units required for the qualification, and who did not request certification at the time of entry, may enter for certification either in the same examination session (within a specified period after publication of results) or at a later session.

AS GCE certification is available from June 2014.
Advanced GCE certification is available from June 2014.

5.3   Grading

All GCE units are awarded a-e. The Advanced Subsidiary GCE is awarded on the scale A-E. The Advanced GCE is awarded on the scale A-E with access to an A*. To be awarded an A*, candidates will need to achieve a grade A on their full A level qualification and an A* on the aggregate of their A2 units. Grades are reported on certificates. Results for candidates who fail to achieve the minimum grade (E or e) will be recorded as *unclassified* (U or u) and this is **not** certificated.

A Uniform Mark Scale (UMS) enables comparison of candidates' performance across units and across series and enables candidates' scores to be put on a common scale for aggregation purposes. The two-unit AS GCE has a total of 200 *uniform* marks and the four-unit Advanced GCE has a total of 400 *uniform* marks.

OCR converts each raw mark for each unit to a uniform mark. The maximum *uniform* mark for any unit depends on that unit's weighting in the specification. In these Critical Thinking specifications, the four units of the Advanced GCE specification have an equal 25% UMS weighting (and the two units of the AS GCE specification have an equal 50% UMS weighting) and the UMS total for each is 100. Each unit's *raw* mark grade boundary equates to the *uniform* mark boundary at the same grade. Intermediate marks are converted on a pro-rata basis.

Uniform marks correspond to *unit* grades as follows:

(Advanced GCE) Unit Weighting	Maximum Unit Uniform Mark	Unit Grade					
		a	b	c	d	e	u
25%	100	100–80	79–70	69–60	59–50	49–40	39–0

OCR adds together the unit *uniform* marks and compares these to pre-set boundaries (see the table below) to arrive at *qualification* grades.

Qualification	Qualification Grade					
	A	B	C	D	E	U
AS GCE	200–160	159–140	139–120	119–100	99–80	79–0
Advanced GCE	400–320	319–280	279–240	239–200	199–160	159–0

Candidates achieving at least 320 UMS marks in their Advanced GCE, ie grade A, and who also gain at least 180 UMS in their two A2 units will receive an A* grade.

5.4   Result Enquiries and Appeals

Under certain circumstances, a centre may wish to query the grade available to one or more candidates or to submit an appeal against an outcome of such an enquiry. Enquiries about unit results must be made immediately following the series in which the relevant unit was taken.

For procedures relating to enquires on results and appeals, centres should consult the OCR *Administration Guide for General Qualifications* and the document *Enquiries about Results and Appeals: Information and Guidance for Centres* produced by the Joint Council. Copies of the most recent editions of these papers can be obtained from OCR.

5.5   Shelf-life of Units

Individual unit results, prior to certification of the qualification, have a shelf-life limited only by that of the qualification.

5.6   Unit and Qualification Re-sits

There is no restriction on the number of times a candidate may re-sit each unit before entering for certification for an AS GCE or Advanced GCE.

Candidates may enter for the full qualifications an unlimited number of times.

5.7   Guided Learning Hours

AS GCE Critical Thinking requires **180** guided learning hours in total.
Advanced GCE Critical Thinking requires **360** guided learning hours in total.

5.8   Code of Practice/Subject Criteria/Common Criteria Requirements

These specifications comply in all respects with current *GCSE, GCE, GNVQ and AEA Code of Practice,* as available on the QCA website; the subject criteria for GCE Critical Thinking; and *The Statutory Regulation of External Qualifications 2004.*

5.9   Arrangements for Candidates with Particular Requirements

For candidates who are unable to complete the full assessment or whose performance may be adversely affected through no fault of their own, teachers should consult the *Access Arrangements and Special Consideration: Regulations and Guidance Relating to Candidates who are Eligible for Adjustments in Examinations* produced by the Joint Council. In such cases, advice should be sought from OCR as early as possible during the course.

5.10 Prohibited Qualifications and Classification Code

Candidates who enter for the OCR GCE specifications may not enter for any other GCE specification with the certification title GCE *Critical Thinking* in the same examination series.

Every specification is assigned to a national classification code indicating the subject area to which it belongs.

Centres should be aware that candidates who enter for more than one GCE qualification with the same classification code will have only one grade (the highest) counted for the purpose of the Schools and College Achievement and Attainment Tables.

The classification code for these specifications is 7830.

6 Other Specification Issues

6.1 Overlap with other Qualifications

There is a small degree of overlap between the content of Unit F503: *Ethical Reasoning and Decision-making* and the GCE Religious Studies' content on religious ethics.

6.2 Progression from these Qualifications

Candidates studying AS/A Level Critical Thinking will be provided with a foundation for further study of academic and vocational subjects. Critical Thinking skills are of great benefit in preparation for a wide range of careers, including the fields of law, academic research (e.g. in the disciplines of science, arts and humanities), social science, journalism, medicine, business and accounting.

6.3 Key Skills Mapping

These specifications provide opportunities for the development of the Key Skills of *Communication*, *Application of Number*, *Information Technology*, *Working with Others*, *Improving Own Learning and Performance* and *Problem Solving* at Levels 2 and/or 3. However, the extent to which this evidence fulfils the Key Skills criteria at these levels will be totally dependent on the style of teaching and learning adopted for each unit.

The following table indicates where opportunities *may* exist for at least some coverage of the various Key Skills criteria at Levels 2 and/or 3 for each unit.

Unit	C				AoN			IT			WwO			IOLP			PS		
	2.1a	2.1b	.2	2.3	2.1	2.2	2.3	2.1	2.2	2.3	2.1	2.2	2.3	2.1	2.2	2.3	2.1	2.2	2.3
F501	✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓			
F502	✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓			
F503	✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓			
F504	✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓			

6.4 Spiritual, Moral, Ethical, Social, Legislative, Economic and Cultural Issues

This specification provides opportunities for candidates to develop their spiritual, moral, ethical, social and cultural understanding throughout the course. In particular, the A2 units *Ethical Reasoning and Decision-Making* and *Critical Reasoning* provide opportunities to develop candidates' understanding of, and skills in, the following areas:

- conflict resolution;

- ability to take seriously arguments and perspectives different to their own;

- ability to consider issues from a variety of moral and ethical standpoints.

6.5 Sustainable Development, Health and Safety Considerations and European Developments

These specifications support these issues, consistent with current EU agreements, in the following ways.

This specification can support environmental education and health and safety issues consistent with current EU agreements through delivery of the content outlined in Section 2.

This specification can provide opportunities to consider issues in the European context through delivery of the content outlined in Section 2.

6.6 Avoidance of Bias

OCR has taken great care in the preparation of these specifications and assessment materials to avoid bias of any kind.

6.7 Language

These specifications and associated assessment materials are in English only.

6.8 Disability Discrimination Act Information Relating to these Specifications

AS/A levels often require assessment of a broad range of competences. This is because they are general qualifications and, as such, prepare candidates for a wide range of occupations and higher level courses.

The revised AS/A level qualification and subject criteria were reviewed to identify whether any of the competences required by the subject presented a potential barrier to any disabled candidates. If this was the case, the situation was reviewed again to ensure that such competences were included only where essential to the subject. The findings of this process were discussed with disability groups and with disabled people.

Reasonable adjustments are made for disabled candidates in order to enable them to access the assessments. For this reason, very few candidates will have a complete barrier to any part of the assessment. Information on reasonable adjustments is found in *Access Arrangements and Special Consideration Regulations and Guidance Relating to Candidates who are Eligible for Adjustments in Examinations* produced by the Joint Council (refer to Section 5.9 of this specification).

Candidates who are still unable to access a significant part of the assessment, even after exploring all possibilities through reasonable adjustments, may still be able to receive an award. They would be given a grade on the parts of the assessment they have taken and there would be an indication on their certificate that not all of the competences have been addressed. This will be kept under review and may be amended in the future.

Appendix A: Performance Descriptions

Performance descriptions have been created for all GCE subjects. They describe the learning outcomes and levels of attainment likely to be demonstrated by a representative candidate performing at the A/B and E/U boundaries for AS and A2.

In practice most candidates will show uneven profiles across the attainments listed, with strengths in some areas compensating in the award process for weaknesses or omissions elsewhere. Performance descriptions illustrate expectations at the A/B and E/U boundaries of the AS and A2 as a whole; they have not been written at unit level.

Grade A/B and E/U boundaries should be set using professional judgement. The judgement should reflect the quality of candidates' work, informed by the available technical and statistical evidence. Performance descriptions are designed to assist examiners in exercising their professional judgement. They should be interpreted and applied in the context of individual specifications and their associated units. However, performance descriptions are not designed to define the content of specifications and units.

The requirement for all AS and A level specifications to assess candidates' quality of written communication will be met through one or more of the assessment objectives.

The performance descriptions have been produced by the regulatory authorities in collaboration with the awarding bodies.

AS performance descriptions for critical thinking

	Assessment Objective 1	Assessment Objective 2	Assessment Objective 3
Assessment Objectives	Candidates should be able to: • analyse critically the use of different kinds of reasoning in a wide range of contexts.	Candidates should be able to: • evaluate critically the use of different kinds of reasoning in a wide range of contexts.	Candidates should be able to: • develop and communicate relevant and coherent arguments clearly and accurately in a concise and logical manner.
AS A/B boundary Performance Descriptions	Candidates characteristically: a) apply the language of reasoning appropriately and precisely to the context b) demonstrate a secure understanding of the overall structure of the argument c) identify subtle and complex arguments accurately, for example distinguishing intermediate from main conclusions and/or recognising a counter argument where present.	Candidates characteristically: a) recognise and evaluate particular types of reasoning, using appropriate methods b) identify flaws in reasoning, explaining accurately what is wrong c) recognise and clearly articulate assumptions that are necessary for the argument to work d) evaluate critically the credibility of evidence using a range of appropriate criteria e) interpret and clarify key terms and ideas, where appropriate.	Candidates characteristically: a) communicate an effective argument clearly, accurately and coherently using appropriate language b) present relevant further arguments with exemplification and a measure of persuasion, for example giving a counter and/or supporting argument that focuses on the correct conclusion.
AS E/U boundary Performance Descriptions	Candidates characteristically: a) display some evidence of applying the language of reasoning at a basic level to the context b) recognise the gist of the argument and/or some of the reasons.	Candidates characteristically: a) comment on some obvious features of reasoning, such as comparisons, causes and examples b) identify obvious errors in reasoning with some understanding of what is wrong c) recognise that there are gaps in the reasoning without necessarily expressing the assumptions clearly or accurately d) make superficial comments about the sources of evidence with statements that tend to be narrative and descriptive e) make simplistic observations about the terms and ideas used.	Candidates characteristically: a) convey a basic argument, for example by presenting straightforward examples and/or objections • construct arguments without necessarily recognising the precise conclusion of the stimulus.

A2 performance descriptions for critical thinking

	Assessment Objective 1	Assessment Objective 2	Assessment Objective 3
Assessment Objectives	Candidates should be able to: • analyse critically the use of different kinds of reasoning in a wide range of contexts.	Candidates should be able to: • evaluate critically the use of different kinds of reasoning in a wide range of contexts.	Candidates should be able to: • develop and communicate relevant and coherent arguments clearly and accurately in a concise and logical manner.
A2 A/B boundary Performance Descriptions	Candidates characteristically: a) apply the language of reasoning appropriately and precisely b) demonstrate a secure understanding of the overall structure of a range of argument types c) identify subtle and complex arguments accurately.	Candidates characteristically: a) recognise and evaluate particular types of reasoning, using appropriate methods b) use terminology accurately to identify flawed/questionable reasoning, explaining precisely what is wrong c) recognise, articulate clearly and evaluate the impact of any assumptions on the argument d) evaluate critically and precisely the credibility of sources of evidence and the impact of their judgements on the persuasiveness/strength of the argument e) interpret and clarify, where appropriate, key terms and ideas, commenting on the impact of the lack of clarity on the argument and on the effect of the clarification.	Candidates characteristically: a) communicate effective complex arguments clearly, accurately, coherently and fluently, using appropriate language b) present relevant arguments clearly, precisely, accurately and persuasively by selecting appropriate issues and combining different points of view c) recognise contrasting points of view, where appropriate, and identify the reasoning underpinning them d) identify and evaluate clearly and precisely the arguments on each side.

A2 E/U boundary Performance Descriptions	Candidates characteristically: a) apply the language of reasoning in an appropriate and precise way b) recognise, in the context of a range of arguments, the overall gist of the argument and/or some of the reasons.	Candidates characteristically: a) recognise and begin to evaluate particular types of reasoning, although methods used might be simple or not appropriate b) use some terminology to identify flawed/questionable reasoning, demonstrating some understanding of what is wrong c) recognise and begin to articulate assumptions, commenting in a simplistic way on the impact of the assumptions on the argument d) make sensible comments on the credibility of sources of evidence, without necessarily explaining the full impact of their comments on the persuasiveness/strength of the argument e) interpret and clarify terms and ideas, where appropriate.	Candidates characteristically: a) communicate a complex argument clearly in an unsophisticated way b) present relevant arguments clearly by selecting appropriate issues and combining different points of view c) recognise contrasting points of view, where appropriate, and identify simple reasons underpinning them d) begin to evaluate the reasoning on both sides in a simplistic way.

Appendix B: Suggested Background Reading for Teachers

Critical Thinking is a relatively new subject at GCE A Level. Teachers who are new to the subject may find the following list of background reading helpful. The list of suggested titles is not intended to be exhaustive but details some of the texts believed to be available at the time of preparation of the specification.

It should be noted that these are suggestions for background reading, not class texts: the content of these resources does not necessarily match the specification closely.

Heinemann Harcourt is preparing a series of OCR-endorsed texts for students.

Allsup, Vanessa, Matthews, Ruth and Rowe, Alison. *OCR Critical Thinking AS*. Heinemann. 2008

Bowell, T. and Kemp, G. *Critical Thinking: A Concise Guide.* Routledge, London, 2002

Butterworth, John and Thwaites, Geoff. *Thinking Skills*. Cambridge University Press. ISBN 0 521 52149 1

Ennis, R.H. *Critical Thinking*. Prentice Hall. 1995

Fisher A. *Critical Thinking: An Introduction.* Cambridge University Press. 2001

Govier T. *A Practical Study of Argument*. Wadsworth Publishing. Belmont, CA. 1985A R

Haralambos, M. *Critical Thinking*. Longman. 2006

Lally, Jo. *OCR Critical Thinking AS: Planning and Delivery Pack*. Heinemann. 2008

Lally, Jo. *OCR Critical Thinking AS: Planning and Delivery Pack*. Heinemann. 2008

Lally, Jo and McCabe, Tony. *OCR Critical Thinking A2*. Heinemann. 2008

LeBlanc, Jill. *Thinking Clearly: A Guide to Critical Reasoning*. ISBN 0-393-31877-X 1998

Palmer M. *Moral Problems: A Coursebook for Schools and Colleges*. Lutterworth Press. ISBN 0 7188 2791 0

Paul, R. W. and Elder, L. *Critical Thinking*. Pearson Education. 2002

Phelan, P. and Reynolds, P. *Argument and Evidence: Critical Analysis for the Social Sciences*. Routledge. London. 1995.

Shand, J. *Arguing Well.* Routledge. 2000

Thomson, A. *Critical Reasoning in Ethics: A Practical Introduction.* Routledge. London (for Unit F503)

Thomson, A. *Critical Reasoning: A Practical Introduction,* 2nd edition Routledge, London, 2002

Van den Brink-Budgen, Roy. *Critical Thinking.* First and Best. 1995 ISBN 1 860 83191 5

Van den Bring-Budgen, Roy. *Critical Thinking for Students.* How to Books. 2000

Warburton, N. *Thinking from A to Z.* Routledge. 1996. ISBN 0415096863

Weston, A. *A Rulebook for Argument.* Hackett