

GCE



CCEA GCE Specification in Nutrition and Food Science

Version 2: 17 September 2018

For first teaching from September 2016
For first award of AS level in Summer 2017
For first award of A level in Summer 2018
Subject Code: 3310



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1 Introduction

This specification sets out the content and assessment details for our Advanced Subsidiary (AS) and Advanced GCE courses in Nutrition and Food Science. First teaching is from September 2016.

Students can take:

- the AS course as a final qualification; or
- the AS units plus the A2 units for a full GCE A level qualification.

We assess the AS units at a standard appropriate for students who have completed the first part of the full course. A2 units have an element of synoptic assessment (to assess students' understanding of the subject as a whole), as well as more emphasis on assessment objectives that reflect higher order thinking skills.

The full Advanced GCE award is based on students' marks from the AS (40 percent) and the A2 (60 percent). The guided learning hours for this specification, as for all GCEs, are:

- 180 hours for the Advanced Subsidiary level award; and
- 360 hours for the Advanced level award.

We will make the first AS awards for the specification in 2017 and the first A level awards in 2018. The specification builds on the broad objectives of the Northern Ireland Curriculum.

If there are any major changes to this specification, we will notify centres in writing. The online version of the specification will always be the most up to date; to view and download this please go to www.ccea.org.uk

1.1 Aims

This specification aims to encourage students to:

- develop and apply knowledge, understanding and skills to meet human needs in a broad range of activities;
- develop an awareness of how to manage resources to meet an identified human need in a diverse and ever-changing society;
- develop higher order critical thinking skills such as problem-solving and decision making;
- develop personal capabilities such as self-management and working with others;
- become independent and lifelong learners;
- develop Cross-Curricular Skills of Communication, Using Mathematics and Using ICT;
- take account of and develop an awareness of rapid technological changes and the growth of scientific knowledge and understanding;
- carry out research and present their findings in different formats; and
- demonstrate through challenging internal and external assessments that they understand and can apply key concepts.

1.2 Key features

The following are important features of this specification.

- There are four assessment units: three externally assessed and one internally assessed.
- It allows students to develop their subject knowledge, understanding and skills in nutrition and food science in relation to a work context.
- Assessment at A2 includes more question types, more demanding evaluative tasks, extended writing, and synoptic assessment that encourages students to develop their understanding of the subject as a whole.
- It can give students a sound basis for progression to higher education.
- A range of support is available, including specimen assessment materials, exemplar schemes of work and teacher guidance.

1.3 Prior attainment

Students do not need to have reached a particular level of attainment before beginning to study this specification. However, the specification builds on knowledge, understanding and skills developed in GCSE Food and Nutrition.

1.4 Classification codes and subject combinations

Every specification has a national classification code that indicates its subject area. The classification code for this qualification is 3310.

Please note that if a student takes two qualifications with the same classification code, universities and colleges that they apply to may take the view that they have achieved only one of the two GCEs. The same may occur with any two GCE qualifications that have a significant overlap in content, even if the classification codes are different. Because of this, students who have any doubts about their subject combinations should check with the universities and colleges that they would like to attend before beginning their studies.

2 Specification at a Glance

The table below summarises the structure of the AS and A level courses:

| Content | Assessment | Weightings |
|--|--|---------------------------------|
| AS 1: Principles of Nutrition | External written examination 1 hour 30 mins Students answer all short questions in Section A and two extended writing questions from a choice of three in Section B. | 50% of AS 20% of A level |
| AS 2: Diet, Lifestyle and Health | External written examination 1 hour 30 mins Students answer all short questions in Section A and three extended writing questions from a choice of four in Section B. | 50% of AS 20% of A level |
| A2 1: Option A: Food Security and Sustainability or Option B: Food Safety and Quality | External written examination 2 hours 30 mins Students answer a compulsory structured question in Section A and three extended writing questions from a choice of four in Section B. | 30% of A level |
| A2 2: Research Project | Internal assessment Students complete a 4000 word research-based project. Teachers mark the projects, and we moderate the results. | 30% of A level |

3 Subject Content

We have divided this course into four units: two units at AS level and two units at A2. This section sets out the content and learning outcomes for each unit.

3.1 Unit AS 1: Principles of Nutrition

In this unit, students learn about macronutrients and micronutrients and other dietary constituents. They also study nutritional requirements and current dietary recommendations for each life stage. The assessment for this unit is a written examination that includes both short answer and extended writing questions. See Section 6 for more details.

| Content | Learning Outcomes |
|-----------------------|---|
| <p>Protein</p> | <p>Students should be able to:</p> <ul style="list-style-type: none"> • demonstrate knowledge and understanding of the functions of protein as a nutrient; • identify plant, animal and novel sources of protein in the diet; • compare and contrast plant, animal and novel sources of protein in relation to nutrition, health, versatility and cost; • demonstrate knowledge and understanding of the following terms: <ul style="list-style-type: none"> – dispensable and indispensable amino acids; – biological value; and – complementation; and • explain nitrogen balance in relation to protein requirements. |

| Content | Learning Outcomes |
|--|---|
| <p>Vitamins</p> <p>Fat-soluble vitamins vitamin A vitamin D vitamin E vitamin K</p> <p>Water-soluble vitamins vitamin B₁ vitamin B₂ niacin vitamin B₆ vitamin B₁₂ folate vitamin C</p> <p>Minerals</p> <p>Major minerals calcium magnesium phosphorus potassium sodium</p> <p>Trace minerals fluorine iodine iron selenium zinc</p> | <p>Students should be able to:</p> <ul style="list-style-type: none"> • describe the role of fat-soluble and water-soluble vitamins in the body; • identify valuable food sources of the listed vitamins; • describe the effects on health of deficiencies and excesses of each vitamin; • demonstrate knowledge and understanding of factors affecting bioavailability and absorption of vitamins; • describe the functions of the listed major minerals and trace minerals; • identify valuable sources of the listed major minerals and trace minerals; • describe the effects on health of deficiencies and excesses of each major mineral and trace mineral; and • demonstrate knowledge and understanding of factors affecting bioavailability and absorption of major minerals and trace minerals. |

| Content | Learning Outcomes |
|---|---|
| <p>Water and other fluids</p> <p>Nutrition through life</p> <p>Nutrient requirements</p> | <p>Students should be able to:</p> <ul style="list-style-type: none"> • demonstrate knowledge and understanding of the sources and functions of water and other fluids in the diet; • consider the nutritional benefits derived from consuming fluids other than water; • discuss factors that impact on hydration; • demonstrate knowledge and understanding of the effects of dehydration and water intoxication; • demonstrate knowledge and understanding of the specific nutritional needs and energy requirements for: <ul style="list-style-type: none"> – pre-conception, pregnancy and lactation; – infants and pre-school children; – school-age children and teenagers; – adult men and women; and – older adults and the frail elderly; • explain how to achieve these specific nutritional needs and energy requirements through appropriate food choices and/or the use of supplements; • describe Dietary Reference Values (DRVs) for nutrients and Estimated Average Requirements (EARs) for energy; and • demonstrate knowledge and understanding of how DRVs and EARs should be used to evaluate diets. |

| Content | Learning Outcomes |
|--|---|
| <p>Type 2 diabetes</p> <p>Alcohol</p> <p>Physical activity</p> | <p>Students should be able to:</p> <ul style="list-style-type: none"> • define Type 2 diabetes and outline its symptoms; • outline the risk factors for Type 2 diabetes: <ul style="list-style-type: none"> – obesity; – diet; – genetics; and – physical inactivity; • propose and justify dietary and lifestyle recommendations for the prevention and management of Type 2 diabetes; • demonstrate knowledge and understanding of the relationship between alcohol and: <ul style="list-style-type: none"> – obesity; – cardiovascular disease; and – cancer; • explain how alcohol consumption in pregnancy can affect the baby; • explain the nutritional consequences for adult men and women of excessive alcohol consumption, for example: <ul style="list-style-type: none"> – fat metabolism; – control of blood glucose levels; – impact on vitamin K, vitamin D and B vitamins; and – impact on zinc and iron; • identify the current guidelines for physical activity for children and adults; and • discuss the health benefits of regular physical activity for children and adults such as: <ul style="list-style-type: none"> – cardiovascular function; – bone and joint health; – skeletal muscular health; – energy balance; and – mental health. |

3.3 Unit A2 1 Option A: Food Security and Sustainability

In this unit, students examine consumer behaviour when making food purchasing decisions and consider the issues and implications of consumer food choice.

Assessment for this unit is a written examination that includes both structured and extended writing questions. See Section 6 for more details.

| Content | Learning Outcomes |
|--|---|
| <p>Food security</p> <p>Food poverty</p> <p>Food sustainability</p> | <p>Students should be able to:</p> <ul style="list-style-type: none"> • outline the challenges to achieving food security: <ul style="list-style-type: none"> – climate change and severe weather; – land degradation through intensive farming; and – population growth; • demonstrate knowledge and understanding of food poverty as a global issue; • demonstrate knowledge and understanding of food poverty as a local and national issue; • describe what is being done to reduce food poverty in the UK, for example: <ul style="list-style-type: none"> – food banks; – Fare Share; and – The Trussel Trust; • discuss the impact of the following ethical and environmental factors on climate change and natural resources (water, soil): <ul style="list-style-type: none"> – animal farming; – locally and seasonally produced food; and – organic farming; and • explain how the following contribute positively to local economies in the UK and producer countries: <ul style="list-style-type: none"> – locally and seasonally produced food; and – Fairtrade. |

| Content | Learning Outcomes |
|--|--|
| <p>Food sustainability (cont.)</p> <p>Food waste</p> <p>Changing consumer behaviour</p> | <p>Students should be able to:</p> <ul style="list-style-type: none"> • explain how the following schemes help consumers who want to make sustainable food choices: <ul style="list-style-type: none"> – Northern Ireland Beef and Lamb Farm Quality Assurance; – Red Tractor; – Carbon Footprint; – Conservation Grade; – Linking Environment and Farming (LEAF); – Rainforest Alliance; and – Marine Stewardship Council; • discuss how the environmental claims made by the food industry influence consumer food choice; • explore food and associated packaging waste as an environmental and ethical issue; • examine the role of the following as contributors to the problem of food and associated packaging waste: <ul style="list-style-type: none"> – primary producers; – food manufacturers; – retailers; and – consumers; • describe how the following organisations aim to reduce food and associated packaging waste: <ul style="list-style-type: none"> – WRAP UK; – Courtauld Commitment; and – Love Food Hate Waste NI; • propose and justify advice to consumers on how to make food choices that have a positive impact on food security and sustainability; • discuss the barriers that prevent consumers from making food choices that have a positive impact on food security and sustainability; and • consider the environmental and social cost of shopping for food in supermarkets. |

Unit A2 1 Option B: Food Safety and Quality

In this unit, students explore securing a safe food supply from the primary producer to the consumer. The assessment for this unit is a written examination that includes both structured and extended writing questions. See Section 6 for more details.

| Content | Learning Outcomes |
|---|--|
| <p>Food safety</p> <p>Safety through the food chain</p> | <p>Students should be able to:</p> <ul style="list-style-type: none"> • demonstrate knowledge and understanding of food safety as a public health priority as defined by the World Health Organisation (WHO); • demonstrate knowledge and understanding of the concept of food safety as a shared responsibility throughout the food chain; • explain the potential risks to food safety in relation to: <ul style="list-style-type: none"> – animal health, for example veterinary medicines and animal feed; and – plant health, for example pesticide residues and mycotoxins; • explain the work of the Food Standards Agency (FSA) and Department of Agriculture, Environment and Rural Affairs (DAERA) in relation to animal and plant health and food safety; • explain how food manufacturers ensure safe food production by using the following quality assurance systems: <ul style="list-style-type: none"> – Good Manufacturing Practice (GMP); – quality assurance standards; and – food traceability; • explain the following in relation to food safety in establishments that serve food: <ul style="list-style-type: none"> – Hazard Analysis Critical Control Point (HACCP); – food hygiene rating schemes; and – food law inspections; and • explain the work of the Environmental Health Practitioner (EHP) in relation to food safety. |

| Content | Learning Outcomes |
|--|---|
| <p>Microbiological contamination</p> <p>Chemical contamination</p> <p>Additives</p> | <p>Students should be able to:</p> <ul style="list-style-type: none"> • describe the possible risks to public health of each of the following bacteria: <ul style="list-style-type: none"> – salmonella; – campylobacter; – listeria; and – escherichia coli; • identify and discuss the foods that pose the greatest risk of food-borne illness; • outline how the risk of microbial contamination can be minimised by: <ul style="list-style-type: none"> – primary producers; – food manufacturers; – establishments that serve food; and – the consumer; • describe the possible risks to public health of each of the following chemical contaminants: <ul style="list-style-type: none"> – acrylamide; – arsenic in rice; – Bisphenol-A (BPA); – dioxins; and – heavy metals, for example mercury, lead and cadmium; • discuss what is being done to minimise the risk to public health of each of the chemical contaminants listed above; • evaluate the use of additives in food and explore the controversy surrounding the use of the following food additives: <ul style="list-style-type: none"> – colours; – flavour enhancers; – sweeteners; and – preservatives; and • explain how food additives are regulated in Europe. |

3.4 Unit A2 2: Research Project

In this unit, students submit a report on a research project of their own choice. The report should not exceed 4000 words. Students must take their research area from AS 1, AS 2 or A2 1. The project gives students opportunities to demonstrate appropriate knowledge, understanding and skills demanded by the process.

In this project, students:

- identify and discuss issues associated with their chosen research area;
- select and interpret appropriate and relevant information;
- analyse information and judge its relevance to their chosen research area;
- plan and conduct primary research;
- present and interpret findings from research they have undertaken;
- draw conclusions using reasoned arguments; and
- make recommendations for future study.

This unit includes synoptic assessment. Students demonstrate an understanding of the connections between different elements of the subject. Their project should combine the knowledge, understanding and skills they have acquired in the different parts of the course.

| Content | Learning Outcomes |
|--------------------------------------|---|
| Focus of the research project | <p>Students should be able to:</p> <ul style="list-style-type: none"> • demonstrate knowledge and understanding of the issues associated with their project title; • analyse and critically evaluate the information and outcomes; and • present their research findings in report format (see next page). |

Report Format

Students must structure their reports to include:

| Heading | Description | Approximate word count |
|------------------------------|--|------------------------|
| Title | <ul style="list-style-type: none"> clearly identifying the precise nature of the research undertaken; | |
| Abstract | <ul style="list-style-type: none"> summarising the entire report; | 150 words |
| Introduction | <ul style="list-style-type: none"> stating a rationale for the chosen research area; outlining the research aim(s) and objective(s); | 350 words |
| Literature review | <ul style="list-style-type: none"> critically reviewing and clearly referencing the information gained from secondary sources; | 1000 words |
| Methodology | <ul style="list-style-type: none"> describing and justifying the primary research method and tool(s) chosen; | 700 words |
| Discussion of results | <ul style="list-style-type: none"> discussing and evaluating research and findings, including: <ul style="list-style-type: none"> a presentation of results; and a detailed analysis of the results from the primary research; highlighting similarities and comparisons with the findings from secondary sources, where possible; | 1500 words |
| Conclusions | <ul style="list-style-type: none"> reviewing the original research aim; drawing together the key findings from primary and secondary sources; | 150 words |
| Recommendations | <ul style="list-style-type: none"> making recommendations for improvement; making recommendations for future research on the topic; | 150 words |
| Bibliography | <ul style="list-style-type: none"> acknowledging references in the text and itemising these in a bibliography at the end of the report, using the Harvard reference style; and | |
| Appendices | <ul style="list-style-type: none"> including any evidence that supports the primary research undertaken, for example: <ul style="list-style-type: none"> a final copy of the research tool such as a questionnaire or interview schedule; collated primary research data; or an example of letters written and received. | |

Students should write their reports in the third person and passive voice in 12 point font on one side of each A4 sheet. They should number the pages and secure them in a flat A4 folder. The report should not exceed 4000 words, excluding the appendices and referencing of secondary sources.

4 Scheme of Assessment

4.1 Assessment opportunities

All units are available for assessment in summer each year. It is possible to resit individual AS and A2 assessment units once and the better result for each unit counts towards an AS or A level qualification. Candidates' results for individual assessment units can count towards a qualification until we withdraw the specification.

4.2 Assessment objectives

There are three assessment objectives for this specification. Candidates must be able to demonstrate:

- knowledge and understanding of the specified content (AO1);
- the ability to apply knowledge, understanding and skills in a variety of situations and to analyse problems, issues and situations using appropriate skills (AO2); and
- the ability to gather, organise and select information, evaluate acquired knowledge and understanding, and present and justify an argument (AO3).

4.3 Assessment objective weightings

The table below sets out the assessment objective weightings for each assessment unit and the overall A level qualification:

| Percentage Assessment Objective Weightings | | | | | |
|--|-----------|-----------|-----------|-----------|------------|
| | AO1 | AO2 | AO3 | AS | A level |
| AS 1 | 7.0 | 10.0 | 3.0 | 20 | 20 |
| AS 2 | 6.0 | 10.0 | 4.0 | 20 | 20 |
| A2 1 | 6.0 | 15.0 | 9.0 | | 30 |
| A2 2 | 6.0 | 15.0 | 9.0 | | 30 |
| Total | 25 | 50 | 25 | 40 | 100 |

4.4 Quality of written communication

In AS and A level Nutrition and Food Science, candidates must demonstrate their quality of written communication. They need to:

- ensure that text is legible and that spelling, punctuation and grammar are accurate so that meaning is clear;
- select and use a form and style of writing appropriate to the purpose and the complexity of the subject matter; and
- organise information clearly and coherently, using specialist vocabulary where appropriate.

Quality of written communication is assessed in responses to questions that require extended writing and the research project.

4.5 Synoptic assessment at A2

The A2 assessment units include some synoptic assessment, which encourages candidates to develop their understanding of the subject as a whole. In our GCE Nutrition and Food Science synoptic assessment involves:

- building on material from the AS units;
- bringing together and making connections between areas of knowledge and skills that they have explored throughout the course;
- selecting and presenting work for examination that demonstrates their strengths in each area;
- following their own lines of enquiry and recording and observing from primary sources; and
- responding to one or more of the following:
 - a stimulus or scenario; and/or
 - a brief or problem.

4.6 Higher order thinking skills

The A2 assessment units provide opportunities to demonstrate higher order thinking skills by incorporating:

- a range of question types to address different skills, for example open-ended questions;
- more demanding evaluative tasks; and
- questions that require candidates to make more connections between sections of the specification.

4.7 Reporting and grading

We report the results of individual assessment units on a uniform mark scale that reflects the assessment weighting of each unit.

We award AS qualifications on a five grade scale from A to E, with A being the highest. We award A level qualifications on a six grade scale from A* to E, with A* being the highest. To determine candidates' grades, we add the uniform marks obtained in individual assessment units.

To be awarded an A*, candidates need to achieve a grade A on their full A level qualification and at least 90 percent of the maximum uniform marks available for the A2 units. If candidates fail to attain a grade E, we report their results as unclassified (U).

The grades we award match the grade descriptions in Section 5 of this specification.

5 Grade Descriptions

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content in the specification; they are not designed to define that content. The grade awarded depends in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of candidates' performance in the assessment may be balanced by better performances in others.

The requirement for all AS and A level specifications to assess candidates' quality of written communication will be met through all three assessment objectives AO1, AO2 and AO3.

AS Grade Descriptions

| Grade | Description |
|---------------------------------|---|
| AS Grade A | <p>For AO1, candidates characteristically:</p> <ul style="list-style-type: none"> • demonstrate an in-depth knowledge and understanding of the concepts, principles, theories and issues relevant to individuals presented in the specification content. <p>For AO2, candidates characteristically:</p> <ul style="list-style-type: none"> • use appropriate subject-specific terminology confidently and accurately; • demonstrate a high level of competence in an appropriate range of skills; and • show clear understanding by appropriately applying their knowledge and skills when analysing a variety of situations. <p>For AO3, candidates characteristically:</p> <ul style="list-style-type: none"> • display competence in gathering, organising and selecting information and data from a range of primary and secondary sources; and • present arguments and make reasoned judgements about the relevance of evidence to particular situations and present appropriate, evidenced conclusions. |

| Grade | Description |
|---------------------------------|--|
| AS Grade E | <p>For AO1, candidates characteristically demonstrate some knowledge and understanding of the concepts, principles, theories and issues relevant to individuals presented in the specification content.</p> <p>For AO2, candidates characteristically:</p> <ul style="list-style-type: none"> • show some use of subject-specific terminology; • demonstrate some competence in an appropriate range of skills; and • show their understanding by appropriately applying their knowledge when analysing some situations. <p>For AO3, candidates characteristically:</p> <ul style="list-style-type: none"> • display competence in gathering and organising information and data from a limited range of primary and secondary sources; and • make judgements about the relevance of evidence to particular situations and present conclusions. |

A2 Grade Descriptions

| Content | Learning Outcomes |
|--|--|
| <p>A2</p> <p>Grade A</p> | <p>For AO1, candidates characteristically:</p> <ul style="list-style-type: none"> • display an in-depth knowledge and understanding of a range of appropriate social, historical, design, scientific and technological facts, concepts and principles; • demonstrate an understanding of relevant theories, legislation and developments; and • display clear knowledge and understanding of the management of resources to meet human needs. <p>For AO2, candidates characteristically:</p> <ul style="list-style-type: none"> • use appropriate subject-specific terminology confidently and accurately; • demonstrate a well-developed ability to apply their knowledge, understanding and skills to a variety of situations; • demonstrate a high level of competence in an appropriate range of skills; • analyse the complexity of interrelationships between areas of the specification; and • analyse the effectiveness of their methodology and the validity of the outcomes, recognising the limitations of both. <p>For AO3, candidates characteristically:</p> <ul style="list-style-type: none"> • select, analyse and interpret information after employing a range of research methods and show a developed and refined ability to organise material from a range of primary and secondary sources during research-based assignments; • demonstrate the ability to effectively evaluate knowledge, understanding and information from a range of sources; • evaluate the effectiveness of methodology and the validity of outcomes, recognising the limitations of both, during research-based assignments; • communicate clear, objective and accurate conclusions in a concise, logical and relevant manner; • present arguments, evaluate and justify judgements, decisions and/or choices; and • show a well-developed understanding of the connections and relationships between the different aspects of Nutrition and Food Science presented in the specification. |

| Content | Learning Outcomes |
|--|---|
| <p>A2</p> <p>Grade E</p> | <p>For AO1, candidates characteristically:</p> <ul style="list-style-type: none"> • display some relevant knowledge and understanding of social, historical, design, scientific and technological facts; • demonstrate some understanding of relevant theories, legislation and developments; and • display an outline knowledge and understanding of the management of resources to meet human needs. <p>For AO2, candidates characteristically:</p> <ul style="list-style-type: none"> • demonstrate some use of subject-specific terminology; • demonstrate some competence in the skills necessary to address the task; • demonstrate ability to apply their knowledge, understanding and skills to some situations; and • analyse the effectiveness of their methodology and the validity of the outcomes, recognising the limitations of both. <p>For AO3, candidates characteristically:</p> <ul style="list-style-type: none"> • gather, organise and select information after employing some basic research methods and show an ability to manage material from a limited range of sources in research-based assignments; • demonstrate a basic ability to evaluate knowledge, understanding and information; • evaluate the potential of evidence and make some judgements; • evaluate the validity of outcomes; • communicate some conclusions in a logical and relevant way; • present decisions, judgements and/or choices; and • show some understanding of the connections between the different aspects of Nutrition and Food Science presented in the specification. |

6 Guidance on External Assessment

There are three external assessment units in this specification, two at AS level and one at A2:

- Unit AS 1: Principles of Nutrition
- Unit AS 2: Diet, Lifestyle and Health
- Unit A2 1:
 - Option A: Food Security and Sustainability or
 - Option B: Food Safety and Quality.

The external assessment focuses on candidates' knowledge, understanding and analysis of the content of each unit.

6.1 Unit AS 1: Principles of Nutrition

Candidates answer all short questions in Section A and two extended writing questions from a choice of three in Section B. The paper is 1 hour 30 minutes long and has 80 marks.

6.2 Unit AS 2: Diet, Lifestyle and Health

Candidates answer all short questions in Section A and three extended writing questions from a choice of four in Section B. The paper is 1 hour 30 minutes long and has 80 marks.

6.3 Unit A2 1

Option A: Food Security and Sustainability or Option B: Food Safety and Quality

In each option, candidates answer a compulsory structured question in Section A and three extended writing questions from a choice of four in Section B. The paper is 2 hours 30 minutes long and has 85 marks.

7 Guidance on Internal Assessment

There is one internal assessment unit in this specification at A2 level:

- Unit A2 2: Research Project.

The internal assessment focuses on candidates' ability to apply their knowledge, understanding and skills. The research project has a total of 120 marks.

7.1 Skills assessed by internal assessment

Teachers must assess the following skills through internal assessment:

- identifying and discussing issues associated with the chosen research area;
- selecting and interpreting appropriate and relevant information;
- analysing information and assessing its relevance to the chosen research area;
- planning and conducting primary research;
- presenting and interpreting findings from research undertaken;
- drawing conclusions using reasoned arguments and making recommendations for future study; and
- demonstrating an appropriate quality of written communication (QWC).

There may also be external assessment of elements of all these skills.

7.2 Setting the task

Candidates choose an appropriate area of study for research from AS 1, AS 2 or A2 1.

We provide centres with details of the requirements of the internal assessment task and guidance on how to complete and submit it.

7.3 Taking the task

Internal assessment is likely to involve both work in the classroom and independent study. It is essential to manage the assessment conditions in a way that ensures the assessment remains reliable and fair. Please note the requirements below.

| Area | Assessment Conditions |
|--------------------|---|
| Supervision | Teachers should supervise candidates' work to: <ul style="list-style-type: none"> • monitor their progress; • prevent plagiarism and check that the work which candidates submit is their own; • comply with health and safety requirements; • provide advice and guidance if there are any problems; and • ensure that the work aligns with the specification requirements and can be marked using the assessment criteria. |

| Area | Assessment Conditions |
|-----------------------------------|---|
| Authenticity | <p>Teachers must be aware of any third party copyright or intellectual property issues in candidates' work.</p> <p>They must sign a declaration to certify that, to the best of their knowledge, all the work that candidates have submitted for assessment is their own.</p> |
| Time Limit/ Word Limit | Each report should be a maximum of 4000 words. |
| Collaboration | Candidates must work independently when completing their internal assessment project. |
| Resources | Candidates must appropriately reference all the materials they use in their work, including any online resources. |

7.4 Marking the task

Teachers should use their professional judgement to apply the assessment criteria in the mark bands appropriately and fairly to candidates' work. They should take a 'best fit' approach to award the appropriate mark within a range, balancing strengths and weaknesses in each response.

The descriptions assume the continued demonstration of the qualities described in the lower mark bands.

When making assessments, teachers should follow the procedure set out below.

- Make a broad judgement by identifying the mark band that best describes the candidate's achievement, for example Mark Band 4: 19–24 marks.
- This initial judgement should then be further refined. If the criteria have only just been fulfilled then, for the example above, the work is likely to be worth 19–20 marks, the bottom of the mark band.
- If the work demonstrates fulfilment of most of the criteria in a reasonably competent manner then, for the example above, the work is likely to be worth 21–22 marks, the middle of the mark band.
- Where the criteria are very competently fulfilled and some evidence of achievement of the higher mark band may be apparent then, for the example above, the work may be judged to be worth 23–24 marks, the top of the mark band.
- Teachers must annotate internally assessed projects in detail to ensure fairness for candidates and to assist with the moderation process. Annotation should take the form of:
 - summative comments on the work, usually at the end of each section, and on the Candidate Record Sheet; and
 - key pieces of evidence identified throughout the work by annotation either in the margin or in the text.

For up-to-date advice on plagiarism, or any kind of candidate malpractice, see *Suspected Malpractice in Examinations and Assessments: Policies and Procedures* on the Joint Council for Qualifications website at www.jcq.org.uk

7.5 Internal standardisation

Centres with more than one teaching group must carry out internal standardisation of their internal assessment tasks before submitting marks to us. This is to ensure, as far as possible, that each teacher has applied the assessment criteria consistently. It may be necessary to adjust an individual teacher's marking:

- to bring it into line with that of other teachers in the centre; and
- to match the standards established at the agreement trial.

If marks do change, centres must amend the total/final marks on their Candidate Record Sheets.

7.6 Moderation

Centres must submit their marks and samples to us by May in any year. We may adjust centres' marking to bring the assessment of candidates' work into line with our agreed standards.

We issue full instructions each year on:

- our moderation procedures;
- which samples we require; and
- the deadlines for submitting marks and samples to us.

Teachers and centre staff may contact us at any stage for advice or support relating to internal assessment.

8 Links and Support

8.1 Support

The following resources are available to support this specification:

- our Nutrition and Food Science microsite at www.ccea.org.uk
- specimen assessment materials; and
- guidance notes for teachers.

We also intend to provide:

- past papers and mark schemes;
- Chief Examiner's reports;
- Principal Moderator's reports;
- schemes of work;
- centre support visits;
- support days for teachers;
- portfolio clinics;
- agreement trials;
- a resource list; and
- exemplification of standards.

8.2 Curriculum objectives

This specification supports centres to build on the broader Northern Ireland Curriculum objectives to develop the young person:

- as an individual;
- as a contributor to society; and
- as a contributor to the economy and environment.

It can contribute to meeting the requirements of the Northern Ireland Entitlement Framework at post-16 and the provision of a broad and balanced curriculum.

Curriculum Progression from Key Stage 4

This specification builds on learning from Key Stage 4 and gives students opportunities to develop their subject knowledge and understanding further.

Students will also have opportunities to continue to develop the **Cross-Curricular Skills and the Thinking Skills** and **Personal Capabilities** shown on the next page. The extent of this development depends on the teaching and learning methodology the teacher uses.

Cross-Curricular Skills

- Communication:
 - Talking and Listening
 - Reading
 - Writing
- Using Mathematics
- Using ICT

Thinking Skills and Personal Capabilities

- Problem Solving
- Working with Others
- Self-Management

For further guidance on the skills and capabilities in this subject, please refer to the supporting schemes of work.

8.3 Examination entries

Entry codes for this subject and details on how to make entries are available on our Qualifications Administration Handbook microsite, which you can access at www.ccea.org.uk

Alternatively, you can telephone our Examination Entries, Results and Certification team using the contact details provided.

8.4 Equality and inclusion

We have considered the requirements of equality legislation in developing this specification and designed it to be as free as possible from ethnic, gender, religious, political and other forms of bias.

GCE qualifications often require the assessment of a broad range of competences. This is because they are general qualifications that prepare students for a wide range of occupations and higher level courses.

During the development process, an external equality panel reviewed the specification to identify any potential barriers to equality and inclusion. Where appropriate, we have considered measures to support access and mitigate barriers.

We can make reasonable adjustments for students with disabilities to reduce barriers to accessing assessments. For this reason, very few students will have a complete barrier to any part of the assessment.

It is important to note that where access arrangements are permitted, they must not be used in any way that undermines the integrity of the assessment. You can find information on reasonable adjustments in the Joint Council for Qualifications document *Access Arrangements and Reasonable Adjustments: General and Vocational Qualifications*, available at www.jcq.org.uk

8.5 Contact details

If you have any queries about this specification, please contact the relevant CCEA staff member or department:

- Specification Support Officer: Nola Fitzsimons
(telephone: (028) 9026 1200, extension 2235, email: nfitzsimons@ccea.org.uk)
- Subject Officer: **Dorothee Wagner**
(telephone: (028) 9026 1200, extension 2218, email: dwagner@ccea.org.uk)
- Examination Entries, Results and Certification
(telephone: (028) 9026 1262, email: entriesandresults@ccea.org.uk)
- Examiner Recruitment
(telephone: (028) 9026 1243, email: appointments@ccea.org.uk)
- Distribution
(telephone: (028) 9026 1242, email: cceadistribution@ccea.org.uk)
- Support Events Administration
(telephone: (028) 9026 1401, email: events@ccea.org.uk)
- Information Section (including Freedom of Information requests)
(telephone: (028) 9026 1200, email: info@ccea.org.uk)
- Moderation
(telephone: 9026 1200, extension 2236, email: moderation@ccea.org.uk)
- Business Assurance (Complaints and Appeals Manager: Heather Clarke)
(telephone: (028) 9026 1244, email: hclarke@ccea.org.uk).

Appendix 1

A2 2: Research Project Assessment Criteria

| Assessment Objectives | Mark Band 1 | Mark Range | Mark Band 2 | Mark Range | Mark Band 3 | Mark Range | Mark Band 4 | Mark Range |
|-----------------------|--|------------|--|------------|---|------------|--|------------|
| | <p>Very basic and limited</p> <p>The candidate:</p> <ul style="list-style-type: none"> • makes only a limited attempt to select and use an appropriate form and style of writing; • organises the material in a way that lacks clarity and coherence; • makes little use of specialist vocabulary; and • uses presentation, spelling, punctuation and grammar that may not make the intended meaning clear. | | <p>Minimally competent to adequate</p> <p>The candidate:</p> <ul style="list-style-type: none"> • makes a reasonable attempt to select and use an appropriate form and style of writing; • organises relevant material with some clarity and coherence; • makes some use of specialist vocabulary; and • uses presentation, spelling, punctuation and grammar sufficiently competently to make meaning evident. | | <p>Competent</p> <p>The candidate:</p> <ul style="list-style-type: none"> • successfully selects and uses an appropriate form and style of writing; • organises relevant material with a high degree of clarity and coherence; • uses appropriate specialist vocabulary; and • uses presentation, spelling, punctuation and grammar of a sufficiently high standard to make meaning clear. | | <p>Highly competent</p> <p>The candidate:</p> <ul style="list-style-type: none"> • successfully selects and uses the most appropriate form and style of writing; • organises relevant material succinctly and displays the highest degree of clarity and coherence; • uses appropriate specialist vocabulary extensively and accurately; and • uses presentation, spelling, punctuation and grammar of the highest standard and ensures that meaning is absolutely clear. | |

| Assessment Objectives | Mark Band 1 | Mark Range | Mark Band 2 | Mark Range | Mark Band 3 | Mark Range | Mark Band 4 | Mark Range |
|--|--|------------|--|------------|--|------------|--|------------|
| | Candidates may require support and guidance to produce: | | Candidates may require guidance to produce: | | Candidates may only require little guidance to produce: | | Candidates work independently to produce: | |
| Abstract AO1 AO2 AO3 | • a basic abstract | 1–2 | • a minimally competent abstract | 3–4 | • a competent abstract | 5–6 | • a coherent abstract | 7–8 |
| Introduction AO1 AO2 AO3 | • a basic introduction, including a limited rationale for the chosen research area with limited engagement and aim and objective(s) | 1–3 | • an adequate introduction, including a rationale for the chosen research area with adequate engagement and aim and objective(s) | 4–6 | • a competent introduction, including a very well argued rationale for the chosen research area with competent engagement and aim and objective(s) | 7–9 | • a sound introduction, including a very well argued rationale for the chosen research area with highly competent engagement and aim and objective(s) | 10–12 |
| Literature Review AO1 AO2 AO3 | • a literature review, with limited relevance to the research aim | 1–6 | • an adequate literature review, with some relevance to the research aim, using mostly relevant sources with some referencing | 7–12 | • a competent literature review, with a clear focus on the research aim, using relevant sources that are accurately referenced | 13–18 | • a sound, well researched, clearly referenced literary review, with a consistent focus on the research aim, using relevant sources that are accurately referenced | 19–24 |
| Methodology AO1 AO2 AO3 | • a methodology that provides a basic description and limited justification of the research procedure. | 1–3 | • a methodology that provides an adequate description and limited justification of the research procedure. | 4–6 | • a methodology that provides a competent description and justification of the research procedure. | 7–9 | • a methodology that provides a highly competent description and sound justification of the research procedure. | 10–12 |

| Assessment Objectives | Mark Band 1 | Mark Range | Mark Band 2 | Mark Range | Mark Band 3 | Mark Range | Mark Band 4 | Mark Range |
|--|--|------------|---|------------|--|------------|---|------------|
| | Very basic and limited Candidates may require support and guidance to produce: | | Minimally competent to adequate Candidates may require guidance to produce: | | Competent Candidates may only require little guidance to produce: | | Highly competent Candidates work independently to produce: | |
| Research tools AO1 AO2 AO3 | • a basic research tool or tools with limited consideration of the aim | 1–3 | • an adequately designed research tool or tools with reasonable consideration of the aim | 4–6 | • a competently designed research tool or tools with good consideration of the aim | 7–9 | • a very competently designed research tool or tools with very good consideration of the aim | 10–12 |
| Presentation of results AO1 AO2 AO3 | • a basic set of collated results demonstrating limited understanding of suitable ways to visually present findings in the text | 1–2 | • an adequate set of collated results demonstrating an understanding of suitable ways to visually present findings in the text | 3–4 | • a competent set of results demonstrating a clear understanding of suitable ways to visually present findings in the text | 5–6 | • a highly competent set of collated results demonstrating a sound understanding of suitable ways to visually present findings in the text | 7–8 |
| Discussion of results AO1 AO2 AO3 | • a discussion that includes a basic analysis of the results and limited highlighting of similarities and comparisons with findings from other sources | 1–6 | • a discussion that includes an adequate analysis of the results and adequate highlighting of similarities and comparisons with findings from other sources | 7–12 | • a discussion that includes a competent analysis of the results and clear highlighting of similarities and comparisons with findings from other sources | 13–18 | • a discussion that includes a very competent analysis of the results and sound highlighting of similarities and comparisons with findings from other sources | 19–24 |
| Conclusions AO1 AO2 AO3 | • basic conclusions based on a limited review of the original research aim. | 1–2 | • adequate conclusions based on an adequate review of the original research aim. | 3–4 | • sound conclusions based on a competent review of the original research aim. | 5–6 | • detailed conclusions based on a comprehensive review of the original research aim. | 7–8 |

| Assessment Objectives | Mark Band 1 | Mark Range | Mark Band 2 | Mark Range | Mark Band 3 | Mark Range | Mark Band 4 | Mark Range |
|--|--|------------|---|------------|--|------------|--|------------|
| | <p>Very basic and limited</p> <p>Candidates may require support and guidance to produce:</p> | | <p>Minimally competent to adequate</p> <p>Candidates may require guidance to produce:</p> | | <p>Competent</p> <p>Candidates may only require little guidance to produce:</p> | | <p>Highly competent</p> <p>Candidates work independently to produce:</p> | |
| <p>Recommendations AO1 AO2 AO3</p> | <ul style="list-style-type: none"> • basic recommendations for improvements and for future research on the topic. | 1–2 | <ul style="list-style-type: none"> • adequate recommendations for improvements and for future research on the topic. | 3–4 | <ul style="list-style-type: none"> • clear recommendations for improvements and for future research on the topic. | 5–6 | <ul style="list-style-type: none"> • sound recommendations for improvements and for future research on the topic. | 7–8 |

| Assessment Objectives | Mark Band 1 | Mark Range | Mark Band 2 | Mark Range | Mark Band 3 | Mark Range | Mark Band 4 | Mark Range |
|-----------------------|------------------------|------------|---------------------------------|------------|-------------|------------|--|------------|
| | Very basic and limited | | Minimally competent to adequate | | Competent | | Highly competent | |
| | | | | | | | Award 4 marks for word limits within tolerance, Harvard style referencing throughout and the inclusion of a Harvard reference style bibliography as follows. Word Count Instruction <ul style="list-style-type: none"> • Award 1 mark if the word count for the report is within +/- 10% of 4000 words References/Bibliography Instruction <ul style="list-style-type: none"> • Award 2 marks for excellent Harvard style referencing throughout the report, 1 mark for inconsistent referencing, and 0 marks for no referencing. • Award 1 mark for inclusion of Harvard style bibliography. | 4 |
| | | | | | | | Total marks available | 120 |

(Amendments shown in red)

| Revision History Number | Date of Change | Page Number | Change Made |
|-------------------------|-------------------|-------------|-------------------------|
| Version 1 | N/A | N/A | First issue |
| Version 2 | 18 September 2018 | 16 | DARD amended to DAERA |
| | | 20 | Word count amended |
| | | 33 | Contact details amended |
| | | 35 & 38 | Amendments to text |