Advanced Higher Course Specification

Advanced Higher Health and Food Technology

Course code:	C836 77
Course assessment code:	X836 77
SCQF:	level 7 (32 SCQF credit points)
Valid from:	session 2019–20

This document provides detailed information about the course and course assessment to ensure consistent and transparent assessment year on year. It describes the structure of the course and the course assessment in terms of the skills, knowledge and understanding that are assessed.

This document is for teachers and lecturers and contains all the mandatory information required to deliver the course.

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Contents

Course overview

This course consists of 32 SCQF credit points, which includes time for preparation for course assessment. The notional length of time for candidates to complete the course is 160 hours.

The course assessment has two components.

Component	Marks	Duration
Component 1: question paper	50	2 hours and 30 minutes
Component 2: project	60	see 'Course assessment' section

Recommended entry	Progression
Entry to this course is at the discretion of the centre. Candidates should have achieved the Higher Health and Food Technology course or equivalent qualifications and/or experience prior to starting this course.	♦ Higher National Diplomas (HNDs) in areas such as food science and food technology ♦ degrees in areas such as food science and technology; food product design; human nutrition and dietetics; or food, nutrition and health ♦ further study, employment and/or training such as health promotion or food testing

Conditions of award

The grade awarded is based on the total marks achieved across both course assessment components.

Course rationale

National Courses reflect Curriculum for Excellence values, purposes and principles. They offer flexibility, provide time for learning, focus on skills and applying learning, and provide scope for personalisation and choice.

Every course provides opportunities for candidates to develop breadth, challenge and application. The focus and balance of assessment is tailored to each subject area.

This course focuses on the influence of food and its nutritional properties, and the dietary needs of individuals and wider society. The relevance, influence and use of technology in food production and processing are embedded throughout the course.

The course develops candidates' ability to analyse food production, processing and consumer food issues. It also allows candidates to develop the knowledge required to become informed and responsible food consumers.

The investigative and critical thinking skills developed throughout this course give candidates important experience of independent working. The emphasis on analysis and evaluation, and the opportunities for investigative work, help candidates develop higher-order thinking skills.

The learning experiences in the course are flexible and adaptable, with opportunities for personalisation and choice.

Purpose and aims

The course allows candidates to develop the knowledge and skills of research, analysis and evaluation in order to make informed choices, or provide informed advice to others, about dietary, nutritional and consumer food issues. The course develops candidates' knowledge and understanding of the science of food.

The course addresses contemporary issues affecting food and nutrition, including ethical considerations; legislation; sustainability; psychology of food trends; food production and development; and their effects on consumer choices.

The course aims to enable candidates to:

- develop skills of independent enquiry, critical thinking, and analysis and evaluation
- apply knowledge and understanding of the relationships between nutrition, food and health, and the importance of these relationships
- develop detailed knowledge and understanding of food science
- apply knowledge and understanding of the functional properties of food in food product development
- develop detailed knowledge and understanding of commercial food manufacturing
- apply knowledge and understanding of contemporary issues affecting consumer food choices

Who is this course for?

This course is suitable for candidates who have an interest in developing skills, knowledge and understanding about the relationships between food, nutrition, diet and health, and contemporary food issues that affect consumer food choices.

It will appeal to candidates who would like to have more independence and responsibility for their learning. They should be able to demonstrate a mature approach to learning and the ability to work on their own initiative with minimal supervision.

Course content

Experiential learning in relevant contexts encourages candidates to develop critical thinking skills and provides opportunities for investigative and independent learning.

Candidates develop and apply knowledge and understanding of:

- the relationship between food and health, and the importance of these relationships
- food science
- contemporary issues affecting consumer food choices
- commercial food manufacturing

Candidates use research skills to analyse and evaluate an issue relevant to the course.

Skills, knowledge and understanding

Skills, knowledge and understanding for the course

The following provides a broad overview of the subject skills, knowledge and understanding developed in the course:

- analysing the relationships between food and health, and the importance of these relationships
- demonstrating knowledge and understanding of food science
- analysing contemporary issues affecting consumer food choices
- demonstrating knowledge and understanding of commercial food manufacturing
- using research skills to investigate a current food issue
- evaluating, analysing and presenting information

Skills, knowledge and understanding for the course assessment

The following provides details of skills, knowledge and understanding sampled in the course assessment.

Explaining, discussing, evaluating or analysing:

- the functions and inter-relationships between the following nutrients and their impact on health:
  - macronutrients: protein, fat, carbohydrates
  - micronutrients: vitamin A, vitamin B complex, vitamin C, vitamin D, vitamin E, vitamin K, calcium, phosphorus, iron, sodium
- the functions and the effects on health of dietary fibre and energy
- the dietary needs of the following individuals and groups:
  - babies and toddlers, young children, adolescents, adults, and the elderly

- females during pregnancy and lactation, vegetarians, vegans, and individuals with food allergies and intolerances

- the impact of the identified advice and information on the health of individuals and groups:
  - current dietary advice
  - information about national food and drink strategies and initiatives
  - current national diet and nutrition statistics
- the links between nutritional intake and diet-related diseases or conditions, and the effects on health of the following diet-related diseases or conditions:
  - obesity; coronary heart disease; stroke; high blood pressure; type 2 diabetes; osteoporosis; anaemia; bowel disease; dental caries
- the implications for food manufacturers of carrying out stages in the product development process:
  - concept generation; concept screening; prototype production; product testing; first production run; marketing plan; product launch
  - sensory testing, market research, marketing
- the functional properties of a range of ingredients in food products and their impact on the food manufacturing process:
  - aeration; binding; caramelisation; coagulation; crystallisation; dextrinisation; emulsification; fermentation; gelatinisation; preservation; shortening; sweetener
- contemporary food issues affecting consumer food choice including:
  - socio-economic factors: budget, lifestyle, health, education
  - environmental and ethical issues: food miles, organic produce, sustainability, seasonality, Fair Trade, genetically modified food
  - food packaging and labelling
  - media and advertising
- the effect of technological developments related to the food manufacturing process:
  - food additives: emulsifiers, preservatives, anti-oxidants, colourings, flavourings
  - functional foods, cook-chill products, modified-atmosphere-packed products, novel protein foods
- types of market research methods used in the food industry:
  - qualitative and quantitative
  - primary and secondary

In addition, candidates must be able to:

- select appropriate primary and secondary research techniques to be used to gather information about health or consumer issues

Skills, knowledge and understanding included in the course are appropriate to the SCQF level of the course. The SCQF level descriptors give further information on characteristics and expected performance at each SCQF level, and are available on the SCQF website.

Skills for learning, skills for life and skills for work

This course helps candidates to develop broad, generic skills. These skills are based on SQA's Skills Framework: Skills for Learning, Skills for Life and Skills for Work and draw from the following main skills areas:

2 Numeracy

2.3 Information handling

3 Health and wellbeing

3.3 Physical wellbeing

5 Thinking skills

5.3 Applying
5.4 Analysing and evaluating

You must build these skills into the course at an appropriate level, where there are suitable opportunities.

Course assessment

Course assessment is based on the information in this course specification.

The course assessment meets the purposes and aims of the course by addressing:

- breadth — drawing on knowledge and skills from across the course
- challenge — requiring greater depth or extension of knowledge and/or skills
- application — requiring application of knowledge and/or skills in practical or theoretical contexts as appropriate

This enables candidates to:

- integrate, extend and apply the skills, knowledge and understanding they have learned during the course. The combination of a project and a question paper adds breadth, challenge and application to the course.

Course assessment structure: question paper

Question paper 50 marks

The question paper has 50 marks out of a total of 110 marks for the course assessment.

The question paper gives candidates an opportunity to demonstrate knowledge and understanding of the following areas by applying the skills of explaining, discussing, evaluating or analysing:

- the relationships between food and health, and the importance of these relationships
- food science
- contemporary issues affecting consumer food choices
- commercial food manufacturing

Setting, conducting and marking the question paper

SQA sets and marks the question paper. It is conducted in centres under conditions specified for external examinations by SQA.

Candidates have 2 hours and 30 minutes to complete this question paper.

Specimen question papers for Advanced Higher courses are published on SQA's website. These illustrate the standard, structure and requirements of the question papers. The specimen papers also include marking instructions.

Course assessment structure: project

Project 60 marks

Candidates analyse, investigate and evaluate an issue relevant to the course.

The project gives candidates an opportunity to demonstrate the following skills, knowledge, and understanding:

- using research skills to investigate a current food issue
- presenting information, analysing and evaluating

The project has 60 marks out of a total of 110 marks for the course assessment.

The project has three stages:

Stage 1: project proposal	20 marks
Stage 2: research	15 marks
Stage 3: analysis and evaluation	25 marks

Project overview

The project gives candidates the opportunity to demonstrate challenge and application by demonstrating skills, knowledge and understanding within the context of carrying out research into a current food issue.

Candidates can choose a topic related to an area they have studied in the course or they can research any appropriate topic based on a current scientific, sociological or technological food issue.

Candidates must follow the stages listed in the table below.

Stage	
1 **Project proposal**	1a Carry out a literature review to gather information about their chosen topic.
	1b Create a research question based on the results of their literature review, and devise a set of objectives to help prove or disprove their research question.
	1c Outline their plan to research the identified question.
2 **Research**	2a Communicate relevant results of their research clearly.
	2b Produce sufficient relevant information for analysis.

3 Analysis and evaluation	3a Analyse their research results.
	3b Evaluate their research process.

Setting, conducting and marking the project

This project is set by SQA and conducted under some supervision and control.

Evidence is submitted to SQA for external marking.

SQA quality assures all marking.

Assessment conditions

Time

The assessment is carried out over a period of time. Candidates should start their project when they have developed the necessary skills, knowledge and understanding. This will normally be when they have completed most of the work on the course.

The evidence for assessment should be produced by the candidate in time to meet a submission date set by SQA.

Supervision, control and authentication

Teachers and lecturers must exercise their professional responsibility in ensuring that evidence submitted by a candidate is the candidate's own work.

The project is conducted under some supervision and control. This means that although candidates may complete part of the work outwith the learning and teaching setting, you should put processes in place to monitor progress and ensure that the work is the candidate's own and that plagiarism has not taken place.

You should put in place ways to authenticate candidate evidence. For example:

- regular checkpoint or progress meetings with candidates
- short spot-check personal interviews
- checklists which record activity or progress
- photographs, film, or audio evidence

Group work approaches, as part of the preparation for assessment, can be helpful to simulate real-life situations, share tasks, and promote team working skills. However, group work is not appropriate once formal work on assessment has started.

Resources

There are no restrictions on the resources that candidates may access while producing their report.

Reasonable assistance

Candidates must carry out the assessment independently. However, they can receive reasonable assistance before the formal assessment process takes place.

The term ‘reasonable assistance’ is used to balance the need for support with the need to avoid giving too much help. If candidates need more than what is thought to be ‘reasonable assistance’, they may not be ready for assessment, or they may have been entered for the wrong level of qualification.

Coursework in Advanced Higher may involve candidates undertaking a larger amount of autonomous work without close supervision than they have previously undertaken. You may provide guidance and support as part of the normal teaching and learning process. However, you should not adopt a directive role or provide specific advice on how to re-phrase, improve responses, or provide model answers.

You should provide reasonable guidance on the types of current food issues which enable candidates to meet all the requirements of the project. You may also guide candidates as to the likely availability and accessibility of resources for their chosen issue. If a candidate seeks clarification on the wording of the instructions for the assessment, you should clarify it for the whole class.

Evidence to be gathered

The following evidence is required for this assessment:

- the candidate’s completed report

Volume

The report should be a maximum of 4,000 words, excluding references, footnotes and appendices. Candidates must provide the word count for the report, excluding appendices, footnotes and references.

If the word count exceeds the maximum by more than 10%, a penalty is applied.

Grading

Candidates' overall grades are determined by their performance across the course assessment. The course assessment is graded A–D on the basis of the total mark for both course assessment components.

Grade description for C

For the award of grade C, candidates will typically have demonstrated successful performance in relation to the skills, knowledge and understanding for the course.

Grade description for A

For the award of grade A, candidates will typically have demonstrated a consistently high level of performance in relation to the skills, knowledge and understanding for the course.

Equality and inclusion

This course is designed to be as fair and as accessible as possible with no unnecessary barriers to learning or assessment.

Guidance on assessment arrangements for disabled candidates and/or those with additional support needs is available on the assessment arrangements web page: www.sqa.org.uk/assessmentarrangements.

Further information

- Advanced Higher Health and Food Technology subject page
- Assessment arrangements web page
- Building the Curriculum 3–5
- Guide to Assessment
- Guidance on conditions of assessment for coursework
- SQA Skills Framework: Skills for Learning, Skills for Life and Skills for Work
- Coursework Authenticity: A Guide for Teachers and Lecturers
- Educational Research Reports
- SQA Guidelines on e-assessment for Schools
- SQA e-assessment web page
- SCQF website: framework, level descriptors and SCQF Handbook

Appendix 1: course support notes

Introduction

These support notes are not mandatory. They provide advice and guidance to teachers and lecturers on approaches to delivering the course. Please read these course support notes in conjunction with the course specification and the specimen question paper and coursework.

Developing skills, knowledge and understanding

This section provides advice and guidance about skills, knowledge and understanding that you could include in the course. You have considerable flexibility to select contexts that stimulate and challenge candidates, offering both breadth and depth.

You should make candidates aware of the skills they are developing and of the transferability of them. Transferable skills help candidates with further study and enhance their personal effectiveness.

Approaches to learning and teaching

Advanced Higher courses place more demands on candidates, as there is a higher proportion of independent study and less direct supervision. Some of the approaches to learning and teaching suggested for other levels (in particular Higher) may also apply at Advanced Higher level, but there should be a stronger emphasis on independent learning.

For Advanced Higher courses, a significant amount of learning may be self-directed and require candidates to demonstrate an independent approach to learning and the ability to work on their own initiative. This can be very challenging for some candidates, who may feel isolated at times, and you should prepare strategies for addressing this. These could include for example, planning time for regular feedback sessions or discussions on a one-to-one basis and on a group basis led by the teacher or lecturer (where appropriate).

You should encourage candidates to use an enquiring, critical and problem-solving approach to their learning. You should give candidates the opportunity to practise and develop research and investigation skills and higher-order evaluation and analytical skills. Using information and communications technology (ICT) can significantly contribute to the development of these higher-order skills as research and investigation activities become more sophisticated.

You should, where possible, provide opportunities to personalise learning, and allow candidates to experience a range of learning and teaching approaches. The flexibility in Advanced Higher courses and the independence with which candidates carry out the work lend themselves to this. You should use inclusive approaches to learning and teaching. You can do this by using a variety of learning and teaching strategies which suit the needs of all candidates. Innovative and creative ways of using technology can be valuable in creating inclusive learning and teaching approaches.

It is more likely to produce a better learning experience if you use an integrative teaching approach. Integrating theory with practical activities reinforces and applies skills, knowledge and understanding in meaningful contexts.

You could offer a choice of a range of briefs and scenarios, or encourage candidates to develop their own.

Throughout this course, you could use local contexts as a basis for learning and teaching. Other stimulus materials, such as visits to local food producers or retailers and visits to local or national food events, may also help to motivate and encourage candidates. See appendix 2 for examples of suggested resources to help you deliver this course.

You should encourage candidates to choose their own range of methods of conducting research, testing, and presenting results.

Integrated learning examples

- Candidates investigate a contemporary issue affecting the food choices of a chosen group, for example children, and then taking this into account, devise a suitable food product to meet the dietary and health needs of the group.
- Candidates devise a new vegetarian food product for a school canteen which takes account of the dietary and health needs of the target group, for example teenagers.
- Candidates investigate the recommendations of a current food strategy, and develop a food product based on the recommendations to be included in a café menu.

Candidates can use a variety of learning activities, for example:

- researching information rather than receiving information from their teacher or lecturer
- using active and open-ended learning activities such as research, case studies and presentation tasks
- using the internet to gather information to draw conclusions about specific issues
- engaging in wide-ranging independent reading, including books, periodicals and professional journals
- using appropriate technological resources (for example web-based resources)
- using appropriate media resources
- recording the results of research and independent investigation from a range of different sources in a systematic way; presenting relevant findings and conclusions of research and investigation activities clearly, using a range of methods
- participating in group work with peers and using collaborative learning opportunities to develop team working skills
- participating in informed debate and discussion with peers, where they can demonstrate skills in constructing and sustaining lines of argument to provide challenge and enjoyment, breadth, and depth to learning
- drawing conclusions from complex information
- using written, oral, and/or electronic communication skills to present information
- using real-life contexts and experiences familiar and relevant to them to hone and exemplify skills, knowledge and understanding

- participating in field trips and visits

You should support candidates by having regular discussions with them and giving regular feedback. Some learning and teaching activities may be carried out on a group basis and, where this applies, candidates could also receive feedback from their peers.

The table on the next page shows where there are likely to be opportunities to develop the mandatory skills, knowledge and understanding across the course. The delivery mode and the approaches to learning and teaching you adopt will determine how and where these opportunities arise.

Course aims	Suggested approaches to learning and teaching
Develop skills of independent enquiry, critical thinking and analysis and evaluation	♦ identifying the type of information that candidates need to obtain about a product. This could include information about features of a specific food product, for example sensory attributes, and factors affecting food choice such as environmental issues, ethical issues, advertising or the media. They could then identify the most appropriate type of research to obtain the required information
Apply knowledge and understanding of the relationships between nutrition, food and health, and the importance of these relationships	♦ mapping the links between nutrients, their function(s) and their potential impact on health. This could be done in small groups or as a class activity ♦ analysing the impact of nutritional intake in the prevention of diet-related conditions on a specified individual ♦ recording their dietary intake. Candidates could use nutritional analysis software to establish their nutritional intake and compare it to the DRVs for their age and gender group. They could use this data as a basis to analyse the potential impact on the prevention of diet-related conditions or diseases ♦ working in pairs or small groups, carry out research to find the nutritional advice for a specific life stage, for example infants, young children, adolescents, adults, or elderly. This information could be gathered by visits to a local nursery or care home. Alternatively, candidates might interview staff from these facilities. They could then apply this information to the identified individual ♦ working in pairs or small groups to collect information about food intake of individuals from different groups. They could then conduct an analysis of the food intake of these individuals, and link the results of the analysis to the potential impact on the health of an identified individual ♦ using current articles from newspapers, magazines, television features or professional journals to gather information about diet-related diseases or conditions. They could then carry out research to find out about the impact of nutritional intake on health

	♦ using online sources to gather information about national food strategies or initiatives, for example the Eatwell Guide; Revised Dietary Goals for Scotland; Beyond the School Gate; Better Eating, Better Learning; Supporting Healthy Choices; Take Life On, One Step at a Time; Front of Pack Nutrition Labelling. Candidates could interview a community dietician, a representative of their school meals provider, or a health promotion professional to gather information about local food initiatives
Develop detailed knowledge and understanding of food science Apply knowledge and understanding of the functional properties of food in food product development	♦ analysing the impact of identified ingredients in a food product, and how this might affect decisions about the use of the ingredient in commercial food manufacture ♦ gathering information about how the functional properties of ingredients might have an impact on commercial food manufacture by interviewing a local manufacturer, chef, or food business owner or staff member
Develop detailed knowledge and understanding of commercial food manufacturing	♦ working in pairs or small groups to make versions of a food product, or part of a food product such as a sauce, pastry or biscuit to find out the effect on the finished product by varying the choice or proportion of ingredients, and then sharing their results with the rest of the class. In groups, candidates could discuss the application of this to the development of food products in the food industry ♦ carrying out a range of methods of sensory testing on a single product in order to find out the most appropriate method to use in order to obtain the required information about consumer acceptance of the product ♦ working individually, in pairs or in small groups, each group could prepare a range of versions of a food product. Each version could have a different choice or proportion of ingredients. They could then carry out sensory testing on each product to gather information about consumer acceptance.
Apply knowledge and understanding of contemporary issues affecting consumer food choices	♦ using a range of techniques to investigate current trends in food purchasing. Candidates could use newspaper, magazine or television features, local restaurant menus, or the internet to survey retailers' current ranges to identify current food trends. They could present the results of their investigations in a range of ways, for example in a table, chart, mind map, diagram, or

	narrative. Candidates could consider the advantages and disadvantages of using these techniques to gather information ♦ surveying target individuals to gather information about the impact of an identified current food initiative or strategy on their food choices, then using the results of the survey to evaluate the potential impact on the health of the identified individuals ♦ investigating trends in food purchasing and/or consumption ♦ using a given range of food products, each based on a different food trend, identify the food trend and give explanations of why the product is suitable for the identified trend

Preparing for course assessment

Each course has additional time which you can use at your discretion to help candidates to prepare for course assessment. This time may be used near the start of the course and at various points throughout the course for consolidation and support. It may also be used towards the end of the course for further integration, revision, preparation and/or gathering evidence for course assessment.

Question paper preparation

Candidates should revise for the question paper and practise question paper techniques, for example:

- practising recall of information appropriate to the context of the question
- answering questions using appropriate command words to help them develop their responses

Marks in the question paper are awarded for demonstration of the skill required in the question, based on knowledge and understanding of the course content. Questions ask candidates to explain, discuss, evaluate or analyse, and focus on the course content listed in the 'Skills, knowledge and understanding for the course assessment' section of this document.

It may help candidates to achieve their optimum mark and help them understand the marking criteria if they become familiar with the way marks are allocated. They may benefit from practise in organising the relevant knowledge and understanding, and structuring their answers.

Information about the question paper can be found in the 'Course assessment' section of this document. Further information about the content of expected responses and the structure of possible responses is provided in the specimen question paper. This is available on the Advanced Higher Health and Food Technology page of SQA's website.

Project preparation

Candidates could practise:

- selecting topics
- gathering and researching information, and presenting relevant information appropriately
- evaluating and analysing findings

You should explain the requirements to candidates and give guidance on the amount and nature of the support they can expect. However, at Advanced Higher level it is expected that candidates work with more independence and less supervision and support.

The assessment conditions can be found in the 'Course assessment' section of this document.

Before starting the project, candidates may benefit from considering the organisational and time management demands of the task. Planning ahead may help make sure that not only is the final submission date met, but also that candidates have a strategy to cover all of the requirements of the project.

It might be helpful for candidates to discuss their prospective choice of area of investigation for their topic before starting the project. Candidates might find it useful to formulate an approach for carrying out the project in order to clarify their thinking and to plan for each stage. Including details of the stages to be undertaken, and the projected timelines for the completion of these activities, would to allow them to monitor progress. This could be created in any written or electronic format but, whatever method is used, it should support the process and should not be overly onerous.

The way a candidate approaches the project is likely to be influenced by their chosen topic and may also depend on their preferred method of working. The skills required for the project should have been developed during the course, based on the guidance in the following pages.

Further information about the project can be found in the 'Course assessment' section of this document and the *Advanced Higher Health and Food Technology coursework assessment task*. This includes information specifically aimed at candidates.

Using research skills to investigate a current food issue

Carrying out a literature review

To carry out a successful literature review, candidates should gather and select information, paying particular attention to identifying different viewpoints about the topic.

Candidates who have studied Health and Food Technology at lower SCQF levels should already be familiar with basic research methods, but the increased demands of Advanced Higher require greater emphasis on detailed, coherent and cross-referenced notes, as they may access multiple sources dealing with the same topic.

You should encourage candidates to plan ahead to make sure that the resources they need are available when they need them.

Sources of information

When evaluating potential sources of information, candidates should consider the following:

- the author — for example, is the author a serious and respected specialist in the field?
- the date of the work — for example, is the information current, or has it been overtaken by more up-to-date thinking?
- the validity of the information — for example, does the design of the publication or the website suggest that the pictures or special effects are more important than the words?
- any likely bias — for example, is the author or website impartial? Is the website managed by a responsible institution, or is it sponsored by a manufacturer?

Taking notes

If candidates have some background knowledge of the chosen topic due to wide reading, it helps them identify key information and compile relevant notes during the literature review.

Note taking is more than simply copying out passages from books or cutting and pasting from websites. There is no need to copy out large amounts of text, as the aim is to capture the main thread of the information. To avoid spending time reading through an entire piece of work when looking for specific information, views or opinions, it can be helpful to look at the contents page, the index and the concluding chapter of a book or summary of findings in a study to help ascertain if the work is likely to be a useful source of relevant information.

Once candidates have identified the section(s) that are likely to be most useful they should skim read by glancing over the paragraphs, looking for key words or phrases to use in the notes. This allows them to scan the text quickly, and record only the main ideas and key issues that are relevant to the topic. Candidates should summarise these ideas in their own words. They only need to copy out text verbatim if it is likely to be quoted in their project. Candidates must copy text accurately, and clearly identify and reference the text.

Only notes that are of significance to the topic being studied should be recorded. Candidates should avoid including information that does not add anything to the understanding of the topic. Notes should be brief, but not so short that the meaning of what has been recorded is lost, especially if shorthand or abbreviations are used.

You should encourage candidates to use a systematic way of recording the information gathered from the literature review as they carry it out. This makes the information easier to find again later and candidates won't need to spend time re-reading the work for specific information. It also makes it easier to cross-reference sources of information.

Developing a system for keeping notes organised helps candidates to keep track of information and makes it easier to find later. It is often useful to organise notes by theme, keeping notes about a specific aspect of the topic together. Taking the time to set out notes neatly helps organise thinking, identify areas for further reading, makes the information more accessible when writing up the literature review, and makes it easier to compile the list of references for the project.

Candidates should record the author and title of the book or article being consulted, and the date of publication. If the information is from an online source, the URL and the date when it was accessed should be noted. This is important, as any sources referred to in the project must be referenced. This makes it easier to cross-reference information, and helps avoid unintended plagiarism.

Candidates are likely to develop their own preferred method of working. The following example suggests one approach to recording information identified from the literature review, and can be adapted by candidates.

Good reference practice

Reference details: include the name of the publication, the author's name, the publisher and the date of publication. If using a website, include the full URL and the date it was accessed. This will help save time later going back to find these details if the work is to be acknowledged in the project.

Broad subject area: draw up a very brief outline of the main content that is relevant to the topic. Keeping sources which focus on the same area of the topic together may help organise the presentation of the literature review.

Summary of content: make brief notes of the most important points in the source. It is likely that these points will be included in the project. Listing them here helps save time finding them later.

Quotes: make a careful copy of anything from the work that might be referred to in the project as a direct quote from the author.

Use ticks (✓) and crosses (x) to indicate if the source is used in the project. This will be helpful later when compiling the bibliography.

Candidates can choose to use any format for organising and storing this information. This record could be paper-based or held electronically, but whatever method is used, it should include the details that will be required later in the process and make the information easy to find.

Bibliography

Candidates should record sources used in the literature review in a bibliography. The bibliography should be an accurate record of all the sources used in the project. Candidates may access many sources of information when carrying out the literature review, but in the bibliography they should only include sources that are referred to in the project.

For books, journals and periodicals, it is important that the author's name is entered correctly. Candidates should include the name of the publisher and the date of the publication. They should also record website content in the bibliography. Candidates should list web addresses and the dates on which they were accessed. This is important because websites frequently change.

Details of information required for referencing and the bibliography can be found in the *Advanced Higher Health and Food Technology coursework assessment task* on the Health and Food Technology subject page of SQA's website.

Research techniques

Research uses a logical approach to obtain information about a specific subject. The main purpose of research for this project is to collect information or data for the purpose of coming to a decision.

You should encourage candidates to choose the research techniques that will allow them to gather the information they need to address their research question. The results of the

research should provide enough relevant information to give a balanced perspective of the topic and to allow valid analysis and evaluation.

The table on the next page provides an indication of the type of research technique and the complexity of research that candidates should consider at Advanced Higher level. The list is for guidance only and is not definitive. Candidates are free to choose to use other research techniques.

Research technique	When carrying out and presenting the results of research, candidates should:
Costing	♦ use current cost data for the ingredients or components ♦ include details of the sources of the cost data ♦ include the cost of all ingredients or components ♦ include 'like-for-like' data when conducting comparative costing
Interviews	♦ choose an interviewee whose expertise is appropriate to the focus of the research, for example they should have the correct qualifications or knowledge to provide valid answers ♦ record their interviewee's position and/or job title ♦ construct the questions to allow the interviewee to provide extended answers ♦ ask sufficient questions to provide the information needed in order to help prove or disprove the objectives. Candidates should avoid including questions that do not focus on the research being undertaken or questions that provide information that is not relevant to the topic
Internet or literary search	♦ review sufficient sources of information to provide a balanced view of the topic ♦ use sources of information that provide data relevant to the focus of the research ♦ gather information from a mixture of literary sources and web-based sources ♦ select only the relevant information from each source ♦ give details of the sources, and identify the information gathered from each of the identified sources
Nutritional analysis	♦ include the nutrients that are relevant to the focus of the research ♦ avoid nutrients that do not have a direct impact on the topic ♦ include all ingredients in the food product or food product component in the analysis ♦ identify the source of the data
Sensory testing	♦ choose testers whose expertise is appropriate to the focus of the research ♦ provide a descriptor(s) of the group(s) of testers used ♦ use sufficient testers to provide valid evidence ♦ include appropriate questions to elicit all the information required about the food product ♦ display any key used for scoring
Surveys	♦ choose sources of information that will provide data relevant to the focus of the research ♦ use sufficiently different sources of information — these could include: food writers' websites, chefs' websites or health promotion websites; books, food magazines and periodicals; trade publications; food retailers' stores or websites; or a mixture of these to provide a range of valid information ♦ identify the relevant information gathered from each source

Questionnaire	♦ choose respondents whose qualifications or knowledge are appropriate to the focus of research ♦ provide a descriptor(s) of the group(s) of respondents used ♦ provide enough respondents to produce sufficient valid evidence ♦ ask sufficient pertinent questions to provide the information needed in order to help prove or disprove the objectives

Carrying out analysis

Candidates should incorporate information from the results of their research and explain their relevance to their research question. Analysis will involve candidates considering the information from the results of their research and picking out what is relevant to their research question to identify patterns, trends and exceptions. It is important that candidates take a critical view of the details they have collected. A strong analysis shows a good understanding of the research question by linking information from more than one source and consistently commenting on the similarities and differences between the information.

A key part of communicating the ideas in the analysis is to be able to structure the findings appropriately. This usually involves setting out the information relevant to the research question in a logical manner which develops a clear line of argument. To organise the information in the analysis, it may be appropriate for candidates to use sub-sections. These sub-sections normally link to the issues identified in the analysis. The sub-sections should link together coherently and be presented in a logical order.

Developing skills for learning, skills for life and skills for work

You should identify opportunities throughout the course for candidates to develop skills for learning, skills for life and skills for work.

Candidates should be aware of the skills they are developing and you can provide advice on opportunities to practise and improve them.

SQA does not formally assess skills for learning, skills for life and skills for work.

There may also be opportunities to develop additional skills depending on the approach centres use to deliver the course. This is for individual teachers and lecturers to manage.

Some examples of potential opportunities to practise or improve these skills are provided in the following table.

Skills for learning, skills for life and skills for work	Suggested learning and teaching activities
2 Numeracy 2.3 Information handling	♦ presenting responses, for example surveys and questionnaires about food or consumer issues obtained from research and investigations, in the most appropriate manner to aid interpretation or decision making

	♦ extracting and interpreting information from data included in tables, charts, graphs or diagrams in food-related publications to help make informed decisions
3 Health and wellbeing 3.3 Physical wellbeing	♦ demonstrating an in-depth understanding of the functions and inter-relationship between nutrients ♦ explaining the dietary needs of individuals ♦ explaining links between nutritional intake and diet-related diseases or conditions
5 Thinking skills 5.3 Applying 5.4 Analysing	♦ planning, organising and carrying out tasks ♦ gathering and using information to develop solutions to meet the needs of case studies, briefs or scenarios ♦ presenting relevant information to support analysis ♦ evaluating solutions based on analysis

At Advanced Higher level it is expected that candidates use a range of higher-order thinking skills. They also develop skills in independent and autonomous learning.

You should ensure that candidates have opportunities to develop these skills as an integral part of their learning experience.

Appendix 2: resources for learning and teaching

Name of organisation or source	Resources
Food Standards Scotland	food hygiene and safety information
British Nutrition Foundation	information on nutrition, healthy eating, lifestyles, dietary diseases, nutritional analysis programme, sensory testing, podcasts, cooking videos, and interactive resources
BBC Bitesize	information on nutritional properties, functional properties, food product development, and social and environmental issues
The Association of UK Dieticians	information on nutrition and current diet and health issues
The Vegetarian Society	information about categories of vegetarian diet, vegetarian nutrition and approved products
The Soil Association	information about organic principles and standards, farming, food etc
Ethical Consumer	information about a wide range of ethically sourced foods and other products
Fairtrade Foundation	information about the ethics of Fairtrade products
The Scottish Government	current national food and health strategies

Administrative information

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History of changes

Version	Description of change	Date
2.0	Course support notes added as appendix.	June 2019
3.0	'Skills, knowledge and understanding for the course assessment' section updated with 'selection of research techniques' skill.	July 2019

Note: please check SQA's website to ensure you are using the most up-to-date version of this document.