



Specification

Edexcel GCSE in Design and Technology: Food Technology (2FT01)

For first certification 2014

Issue 3

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Introduction

The Edexcel GCSE in Design and Technology: Food Technology is designed for use in schools and colleges. It is part of a suite of GCSE qualifications offered by Edexcel.

About this specification

Key features and benefits are:

- the qualification is broken down into two units
- detailed unit content for both units
- clearer assessment criteria for the internally assessed unit
- opportunities for students to complete a full design and make task or design one product and make another
- one examination paper that targets grades A* to G (no tiering).

Key subject aims

The Edexcel GCSE in Design and Technology: Food Technology enables students to:

- actively engage in the processes of design and technology to develop as effective and independent learners
- make decisions, consider sustainability and combine skills with knowledge and understanding in order to design and make quality products
- explore ways in which aesthetic, technical, economic, environmental, ethical and social dimensions interact to shape designing and making
- analyse existing products and produce practical solutions to needs, wants and opportunities, recognising their impact on quality of life
- develop decision-making skills through individual and collaborative working
- understand that designing and making reflect and influence cultures and societies, and that products have an impact on lifestyle
- develop skills of creativity and critical analysis through making links between the principles of good design, existing solutions and technological knowledge.

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Specification at a glance

The Edexcel GCSE in Design and Technology: Food Technology is comprised of two units.

Unit 1 Creative Design and Make Activities

*Unit code: 5FT01

- Internally assessed
- Availability: June series

60% of the
total GCSE

Overview of content

- Students can either design and make one product or different products.
- Students will develop skills in researching, designing, reviewing, planning, making and testing and evaluating.

Overview of assessment

- This unit is internally assessed under controlled conditions.
- Students must complete a design and make activity. These activities can be linked (combined design and make) or separate (design one product, manufacture another).
- Centres will choose a task(s) from a range provided by Edexcel (available on our website at the start of each academic year). These tasks can be contextualised to best suit centre-specific circumstances.
- All work, with the exception of research and preparation, must be carried out under informal supervision. Research and preparation can be completed under limited supervision.
- Students need to complete their designing and making within 40 hours of informal supervision.
- Marking of task(s) will be carried out by teachers and moderated by Edexcel.
- There are eight assessment criteria for designing, and five assessment criteria for making.
- There are a total of 50 raw marks available for the designing and 50 raw marks available for the making. **One** overall raw mark out of 100 is required.
- The first submission of students' work will be in 2014 and in each June series thereafter.

*See *Appendix 3* for a description of this code and all other codes relevant to this qualification.

Unit 2 Knowledge and Understanding of Food Technology *Unit code: 5FT02

- Externally assessed
- Availability: June series

**40% of the
total GCSE****Overview of content**

- Students will develop knowledge and understanding of a wide range of materials, nutrition, equipment, processes, current health issues and technological development used in design and technology.
- The knowledge and understanding that students develop in this unit can be applied easily to *Unit 1: Creative Design and Make Activities*.

Overview of assessment

- This unit is assessed through a 1-hour and 30-minute examination paper set and marked by Edexcel.
- The examination paper will be a question and answer booklet and all questions are compulsory.
- The examination paper will consist of multiple-choice, short-answer and extended-writing questions.
- The total number of raw marks available is 80.
- The first examination will be in 2014 and will be available in each June series thereafter.

*See *Appendix 3* for a description of this code and all other codes relevant to this qualification.

A Qualification content

Knowledge and understanding

This Edexcel GCSE in Design and Technology: Food Technology requires students to demonstrate the application and understanding of:

- nutrition
- primary and secondary food
- preservation and processing
- product manufacture
- analysing products.

Skills

This Edexcel GCSE in Design and Technology: Food Technology requires students to:

- design creatively
- make products
- apply systems and control, computer-aided design/computer-aided manufacturing (CAD/CAM), digital media and new technologies (where appropriate)
- analyse and evaluate processes and products.

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Unit 1 Creative Design and Make Activities

Overview

Content overview

Creativity is a fundamental part of design and technology. Many designers believe the quality of the initial idea and thought-provoking, innovative design to be cornerstones of every successful product. The creative design and make activities within this unit seek to develop creativity and confidence in student's ability to think, question, explore, create and communicate. Combining knowledge and understanding with practical skills, these activities are intended to provide breadth in creative learning and depth in the application of practical and transferable skills.

Assessment overview

- This unit is internally assessed under controlled conditions.
- Students must complete a design and make activity. These activities can be linked (combined design and make) or separate (design one product, manufacture another).
- Centres will choose a task(s) from a range provided by Edexcel (available on our website at the start of each academic year). These tasks can be contextualised to best suit centre-specific circumstances. Tasks will be reviewed every two years.
- Students can undertake a design activity from one task and a make activity from a different task if following a separate design and make activity approach.
- All work, with the exception of research and preparation, must be carried out under informal supervision. Research and preparation may be completed under limited supervision.
- Students need to complete their designing and making within 40 hours of informal supervision.
- Marking of task(s) will be carried out by teachers and moderated by Edexcel.
- There are eight assessment criteria for designing and five assessment criteria for making.
- There is a total of 50 raw marks available for the designing and 50 raw marks available for the making. **One** overall raw mark out of 100 is required.
- The first submission of students' work will be in 2014 and in each June series thereafter.

Suggested timings

Design		
Stage	Tasks	Suggested times
1. Investigate	1.1 Analysing the brief	1 hour
	1.2 Research	3-5 hours
	1.3 Specification	1 hour
2. Design	2.1 Initial ideas	8-10 hours
	2.2 Review	1 hour
	2.3 Communication	Evidenced throughout
3. Develop	3.1 Development	10 hours
	3.2 Final design	1-2 hours

Make		
Stage	Tasks	Suggested times
4. Plan	4.1 Production plan	1-2 hours
5. Make	5.1 Quality of manufacture	5 hours
	5.2 Quality of outcome	
	5.3 Health and safety	Evidenced throughout
6. Test and evaluate	6.1 Testing and evaluation	2-3 hours

Controlled conditions

Development of the student's design folder and manufacture of the product(s) must take place under controlled conditions. Students will be supervised by a teacher at all times.

Students' work must be collected in at the end of the lesson and handed back at the beginning of the next lesson. Students must produce their work individually.

Levels of control

Controlled assessment has levels of control for task setting, task taking and task marking. For design and technology these are as follows.

Task setting – high level of control

Tasks will be set by Edexcel. Centres will choose from a list available on our website in September at the start of each academic year. Tasks will be reviewed every two years.

Centres can contextualise the task(s) to best suit their specific circumstances, which includes the availability of and access to resources.

Students can undertake a design activity from one task and a make activity from a different task if following a separate design and make activity approach.

Task taking – medium level of control

All work, with the exception of research and preparation, must be carried out under informal supervision. Research and preparation may be completed under limited supervision.

Task marking – medium level of control

Marking of tasks will be carried out by teachers and moderated by Edexcel.

Feedback control

Teachers are allowed to provide regular, formative feedback throughout the creative design process. Student progression should be supported by the centre's own Assessment for Learning (AFL) strategies.

Demonstrations of practical activities are allowed in order to develop knowledge, understanding and skills and to identify health and safety issues relating to specific tools, equipment and processes.

Collaboration control

Where group work is carried out, evidence of individual contributions must be clearly identified and recorded.

Resources

Access to resources is determined by those available to the centre.

Quality of written communication

Quality of written communication (QWC) will be assessed throughout the student's design folder. This will assess students on their ability to organise information clearly and coherently, using specialist vocabulary when appropriate.

Detailed unit content

Design activity

Students will have the opportunity to follow the creative design process to produce a final design proposal that fully meets the requirements of an identified user group. The brief can be determined by the individual student or set by the teacher, for example as part of 'real world' design experience in partnership with a local company.

Design briefs **must** be derived from the chosen Edexcel task(s).

Stage 1 Investigate

Stage 1.1 Analysing the brief

Students will be assessed on their ability to:

- analyse their design brief in enough detail to be able to clarify design needs. This will involve analysis of key words and phrases that help in understanding the issues related to the chosen/given design task.

Stage 1.2 Research

Students will be assessed on their ability to:

- present selective and focused research that addresses the needs identified when analysing the brief. Students should be discouraged from presenting unnecessary research or 'padding'
- use product disassembly in order to analyse a relevant, existing product's performance, ingredients and components, processes, quality and sustainability issues. Product analysis is an ideal focused research activity as it enables students to understand the work of professional designers and uncover the problems that they had to solve
- apply findings from product analysis and research to inform their own specification criteria. Students should be able to make connections between existing products and their own potential product.

Stage 1.3 Specification

Students will be assessed on their ability to:

- produce realistic, technical and measurable specification points which address some issues of sustainability for their own product. The specification is an extremely important document as it focuses the designer and enables them to review their design ideas as they progress
- justify their specification points using findings from their research. Each specification point needs to be fully justified and not simply a statement.

Stage 2 Design**Stage 2.1** Initial ideas

Students will be assessed on their ability to:

- present alternative initial design ideas that are realistic, workable and detailed. This is the opportunity for students to demonstrate their creativity and flair for design. A wide range of different initial design ideas should be explored
- demonstrate their understanding of ingredients, processes and techniques applicable to their initial design ideas. Annotation should clearly show students knowledge and understanding of workshop or industrial applications relevant to each initial design idea
- apply their research findings to their initial design ideas. Research should not be a separate section but be applied to initial design ideas where appropriate
- address specification points through their initial design ideas. Annotation should be clearly related to the specification points.

Stage 2.2 Review

Students will be assessed on their ability to:

- present objective evaluative comments against their original specification criteria. Initial design ideas are 'raw' at this stage and it is important to determine which can be developed into workable solutions by testing against specification points
- use user group feedback and issues of sustainability to evaluate their initial design ideas. All design is concerned with people, and their opinions are extremely useful in gaining another perspective on the further development of ideas.

Stage 2.3 Communication

Students will be assessed on their ability to:

- use a range of communication techniques and media, including ICT and CAD where appropriate, throughout the design section. There are many ways of presenting initial design ideas from thumbnail pencil sketches to computer-generated images and students should not be afraid to experiment
- use communication techniques with precision and accuracy. The quality of design work should enable clear communication of design intentions.

Stage 3 Develop**Stage 3.1** Development

Students will be assessed on their ability to:

- develop aspects of their initial design ideas into a range of final design proposals that is significantly different, and improved, to any previous initial design idea. Development should refine technical aspects of the product design and not simply focus on cosmetic changes
- test important aspects of the design idea as it progresses against the design specification
- evaluate their ideas against relevant design criteria as they progress. Annotation of developmental sketches and photographic evidence of the trials should address the specification points.

Stage 3.2 Final design

Students will be assessed on their ability to:

- present a final design proposal in an appropriate format that communicates their design intentions. A range of suitable drawing methods could be used including working drawings, exploded drawings or pictorial drawings
- present technical details of ingredients and/or components, processes and techniques relating to their final design proposal. Final drawings should be clearly annotated and dimensioned so that they can be understood by a third party.

Make activity

For their make activity, students can continue with the same task and manufacture their final design proposal from the design activity or decide to use a new task and manufacture a different product for their make activity. Teachers have the option of giving students a recipe including the method from which to manufacture a suitably demanding product.

Stage 4 Plan**Stage 4.1** Production plan

Students will be assessed on their ability to:

- produce a detailed production plan that considers the stages of manufacture for their product. Charts should clearly communicate the correct order of making and timings. Plans must be forward looking and not retrospective diaries of events
- identify and describe the stages during making where specific quality control procedures should take place. Feedback in charts should state where quality control will take place.

Stage 5 **Make****Stage 5.1** **Quality of manufacture**

Students will be assessed on their ability to:

- attempt a challenging making task involving the manufacture of several different dishes using a range of ingredients, equipment, techniques and processes. Students must ensure that their products provides an opportunity to manufacture several different elements from different ingredients using different processes.
- select tools, equipment and processes, including CAD/CAM where appropriate*, for specific uses. Students should produce a full photographic record of their stages of manufacture showing all the relevant processes in detail
- demonstrate a detailed understanding of the working properties of materials they have selected for a specific use. Students should use their work plan to justify their choices
- demonstrate a wide range of making skills with precision and accuracy. This is an opportunity for students to be rewarded for the range of making skills they demonstrate during the making activity.

*Students should use no more than **50** per cent CAD/CAM in their making activity so that other tools, equipment and processes can be fully evidenced.

Stage 5.2 **Quality of outcome**

Students will be assessed on their ability to:

- produce high-quality dishes that are accurately assembled and well finished to produce a high-quality product overall. Where products are incomplete, it is the quality of the manufacture of individual elements that will gain marks
- produce a completed product that is fully functional. The final product should be fit for purpose and meet the requirements of the original specification or working drawings.

Stage 5.3 Health and safety

Students will be assessed on their ability to:

- demonstrate a high level of safety awareness throughout all stages of manufacture. Teachers will award these marks based upon their observations of students during the make activity. No other formal evidence is required.

Stage 6 Test and evaluate**Stage 6.1 Testing and evaluation**

Students will be assessed on their ability to:

- devise and carry out a range of suitable tests to check the performance and/or quality of the final product. Tests should be measurable and refer to specification points, if appropriate, to determine the product's fitness for purpose
- evaluate their final products objectively with reference to specification points and user group feedback and sustainability issues. No product is ever perfect so students should discuss the positive and negative aspects of their final product. User group feedback should provide a further perspective.

Assessment criteria

For these tasks teachers must mark students' work using the assessment criteria specified below. Teachers should check carefully that students' work is their own and is not copied from source material without any attempt by students to put the material into their own words.

Design activity (50 marks)

Investigate (15 marks)		
Sub-sections	Descriptor	Mark range
a) Analysing the brief	Level of response not worthy of credit.	0
	Analysis is superficial leading to unclear design needs.	1
	Analysis is limited with some design needs clarified.	2
	Analysis is detailed with most design needs clarified.	3
b) Research	Level of response not worthy of credit.	0
	Research is superficial and does not focus on the design needs identified in the analysis. Analysis of existing products is insufficient to aid the writing of specification criteria.	1-2
	Research is general, focusing on some of the design needs identified in the analysis. Product analysis is used to inform the writing of some specification criteria.	3-4
	Research is selective and focuses on the design needs identified in the analysis. The performance, ingredients, components, processes, quality and sustainability issues of relevant existing products are explored in sufficient detail to aid the writing of specification criteria.	5-6
c) Specification	Level of response not worthy of credit.	0
	Specification points are superficial and not justified.	1-2
	Some specification points are realistic and measurable. Some specification points are developed from research but are not justified.	3-4
	Most specification points are realistic, technical, measurable and address some issues of sustainability. Specification fully justifies points developed from research.	5-6

Design (20 marks)		
Sub-sections	Descriptor	Mark range
d) Initial ideas	Level of response not worthy of credit.	0
	Alternative design ideas are similar and simplistic. Ideas are superficial and limited research is used. Limited specification points are addressed.	1–4
	Alternative design ideas are realistic and workable. Ideas are detailed and use relevant research. Ideas address most specification points.	5–8
	Alternative design ideas are realistic, workable and detailed. Ideas demonstrate detailed understanding of ingredients, processes and techniques and are supported by research information. Ideas address all key specification points.	9–12
e) Review	Level of response not worthy of credit.	0
	General and subjective comments against some specification points. Limited use of user group feedback.	1–2
	Objective evaluative comments against most specification points, that consider user group feedback and issues of sustainability.	3–4
f) Communication	Level of response not worthy of credit.	0
	Use of a range of communication techniques, including ICT where appropriate, with sufficient skill to convey an understanding of design ideas.	1–2
	Use of a range of communication techniques and media, including ICT and CAD where appropriate, with precision and accuracy.	3–4

Develop (15 marks)		
Sub-sections	Descriptor	Mark range
g) Development	Level of response not worthy of credit.	0
	Developments from alternative design ideas are minor and cosmetic. Simple modelling is used to test an aspect of the final design proposal against a design criterion.	1-3
	Developments are appropriate and use details from alternative design ideas to change, refine and improve the final design proposal. Modelling using ingredients is used to test some aspects of the final design proposal against relevant design criteria.	4-6
	Development is used to produce a final design proposal that is significantly different and improved compared to any previous alternative design ideas. Modelling to scale using ingredients or 2D and/or 3D computer simulations is used to test important aspects of the final design proposal against relevant design criteria. User group feedback is used in final modifications.	7-9
h) Final design	Level of response not worthy of credit.	0
	Final design proposal includes limited consideration of ingredients and/or component parts, processes and techniques.	1-2
	Final design proposal includes details of some ingredients and/or component parts, processes and techniques.	3-4
	Final design proposal includes technical details of all ingredients and/or component parts, processes and techniques.	5-6

Make activity (range of products) (50 marks)

Plan (6 marks)		
Sub-sections	Descriptor	Mark range
a) Production plan	Level of response not worthy of credit.	0
	Superficial production plan that outlines some stages of manufacture with limited reference to quality control.	1-2
	Limited production plan that considers the main stages of manufacture with some reference to appropriate forms of quality control.	3-4
	Detailed production plan that considers all stages of manufacture in the correct sequence including specific forms of quality control.	5-6

Make (38 marks)		
Sub-sections	Descriptor	Mark range
b) Quality of manufacture	Level of response not worthy of credit.	0
	Equipment and processes, including CAD/CAM where appropriate, are selected with guidance. Limited understanding of the working properties of ingredients when selecting to manufacture a product. The task is undemanding. A limited range of skills and processes is used that show little attention to detail in their use.	1–8
	Equipment and processes, including CAD/CAM where appropriate, are selected with some guidance. Some understanding of the working properties of ingredients when selecting to manufacture a product. The task offers some challenge. A range of skills and processes is used demonstrating attention to detail in their use.	9–16
	Equipment and processes, including CAD/CAM where appropriate, are selected for specific uses independently. An appropriate understanding of the working properties of ingredients when selecting to manufacture a product. The task is challenging. A wide range of skills and processes is used with precision and accuracy.	17–24
c) Quality of outcome	Level of response not worthy of credit.	0
	Product includes the manufacture of some good quality elements that remain either unassembled or poorly assembled and finished. Completed product functions poorly.	1–4
	Product includes the manufacture of good quality elements that are generally well assembled and finished. Completed product functions adequately.	5–8
	Product includes the manufacture of high-quality elements, accurately assembled and well finished. Completed product is fully functional.	9–12
d) Health and safety	Level of response not worthy of credit.	0
	Demonstrate an awareness of safe working practices for most specific skills and processes.	1
	Demonstrate a high level of safety awareness throughout all aspects of manufacture.	2

Test and evaluate (6 marks)		
Sub-sections	Descriptor	Mark range
e) Testing and evaluation*	Level of response not worthy of credit.	0
	One or more simple tests carried out to check the performance and/or quality of the final product. Evaluative comments are subjective and reference a few specification points superficially. Use of basic language and the response lacks clarity and organisation. Spelling, punctuation and the rules of grammar used with limited accuracy.	1-2
	A range of tests carried out to check the performance and/or quality of the final product. Evaluative comments are objective and reference most specification points. Use of some design and technology terms and some focus and organisation. Spelling, punctuation and the rules of grammar used with some accuracy. Some spelling errors may still be found.	3-4
	A range of tests carried out to check the performance and/or quality of the final product with justification. Objective evaluative comments, including user group evaluation, consider most relevant, measurable specification points in detail, including sustainability issues. Use of a range of appropriate design and technology terms and shows good focus and organisation. Spelling, punctuation and the rules of grammar used with considerable accuracy.	5-6

* Opportunity for students to be assessed on quality of written communication: strand (iii) — organise information clearly and coherently, using specialist vocabulary when appropriate.

Unit 2 Knowledge and Understanding of Food Technology

Overview

Content overview

Students will develop knowledge and understanding of a wide range of materials, nutrition, equipment, processes, current health issues and technological development used in design and technology.

The knowledge and understanding students develop in this unit can be applied easily to *Unit 1: Creative Design and Make Activities*.

Assessment overview

- This unit is assessed through a 1-hour and 30-minute examination paper set and marked by Edexcel.
- The examination paper will be a question and answer booklet and all questions are compulsory.
- The examination paper will consist of multiple-choice, short-answer and extended-writing questions.
- The total number of raw marks available is 80.
- The examination will be each June series.

Detailed unit content

Topic 1 Nutrition

Topic 1.1 Fats

What students need to learn

The dietary function and sources of the following fats:

- saturated
- unsaturated
 - polyunsaturated
 - essential fatty acids.

Topic 1.2 Carbohydrates**What students need to learn**

The dietary function and sources of the following carbohydrates:

- sugar
- starch
- fibre/NSP (non-starch polysaccharides).

Topic 1.3 Protein**What students need to learn**

The dietary function, sources and deficiency of the following proteins:

- HBV (high biological value) protein
- LBV (low biological value) protein.

Topic 1.4 Vitamins**What students need to learn**

The dietary function, sources and deficiency of the following vitamins:

- fat soluble
 - A
 - D
- water soluble
 - B1
 - B2
 - folate/folic acid
 - C.

Topic 1.5 Minerals**What students need to learn**

The functions, sources and deficiency of the following minerals:

- calcium
- iron
- sodium
- fluoride.

Topic 1.6 Energy balance**What students need to learn**

Knowledge and understanding of the following nutritional concepts:

- use of energy in the body
 - mechanical, for example, movement of muscles
 - chemical, for example, metabolic reactions
 - heat, for example, maintain body temperature
 - electrical, for example, transmission of nervous impulses
- energy requirements
 - age
 - gender
 - occupation
 - physical activity and exercise
 - life stage, for example, pregnancy
- balanced diet
 - DRVs (dietary reference values)
 - energy provided from
 - protein
 - fat
 - carbohydrate.

Topic 1.7 Dietary guidelines**What students need to learn**

Knowledge and understanding of the following nutritional concepts of healthy eating:

- eat less sugar
- eat less saturated and hydrogenated fat
- eat more fibre, starchy, low GI (glycaemic index) foods
- eat less salt.

Topic 1.8 Government recommendations**What students need to learn**

Knowledge and understanding of the following nutritional concepts:

- five-a-day
- nutritional labelling
- 'eat-well-plate' (current UK food choice model)
- recommended fish intake.

Topic 1.9 Individual nutritional requirements**What students need to learn**

Knowledge and understanding of the following 'diets', nutritional requirements, good food sources of nutrients and modification of ingredients and recipes to suit user needs:

- pregnancy
 - foods to avoid
 - folic acid recommendation
- infants up to one year
- toddlers up to five years and school age children
- adolescents
- adults
- senior citizens
- illness and convalescence.

Topic 1.10 Special diets**What students need to learn**

Knowledge and understanding of the following diets, nutritional requirements, good food sources of nutrients and modification of ingredients and recipes to suit user needs:

- vegetarian
 - vegan
 - lacto-ovo
 - lacto
 - ovo
- intolerances
 - lactose
- medical
 - diabetes mellitus/diabetic
 - CHD (coronary heart disease)
 - obesity
 - allergy: nut, celiac.

Topic 1.11 Ethnic and religious groups**What students need to learn**

Knowledge and understanding of the following ethnic and religious groups food rules:

- Hindu faith
- Muslim faith
- Jewish faith.

Topic 2 Primary and secondary foods**Topic 2.1 Primary foods****What students need to learn**

Knowledge of the nutritional content, uses, types and functional properties of the following primary foods:

- cereals
 - wheat
 - rice
 - maize/corn
 - oats
- milk and dairy
 - milk
 - cream
 - cheese
 - yoghurt
- meat and fish
 - alternative protein foods
 - Quorn™, TVP (soya), tofu
 - pulses and peanuts
- fruit and vegetables
- for eggs
 - pasteurised
 - liquid
 - frozen
 - dried
 - fresh
- fats and oils
 - butter
 - margarine
 - low fat spread
 - plant oils
 - olive, corn, sunflower
- sugar.

Topic 2.2 Functional properties and working characteristics**What students need to learn**

Knowledge and understanding of the properties and working characteristics of raw materials and ingredients and how their different functional properties affect finished products.

- thickening and gelatinisation
- setting
 - coagulation
 - gelation
- aeration
- foaming
- fermentation
- shortening
- fortification
- browning
- binding
- coating
- glazing
- emulsification
- dextrinisation
- caramelisation.

Topic 2.3 Secondary foods**What students need to learn**

Knowledge and understanding that by combining primary foods additional properties are produced:

- increased nutrition, for example
 - adding. for example, eggs to a dough mixture can increase protein content
- improved organoleptic (sensory) qualities, for example
 - changing appearance to make product more attractive, for example, using milk to glaze pastry to produce a shiny finish, using icing to decorate a cake, grilled cheese topping on a pie
 - changing texture by addition of seeds or dried fruit, for example, seeds on top and in bread, seeds added to a dessert, for example, crunchy crumble topping
 - changing flavour, for example, adding herbs to pastry or butter, lemon or orange zest/juice to cakes, cream to sauces, spices to biscuits and sauces.

Topic 3 Preservation and processing

Topic 3.1 Preservation

What students need to learn

Knowledge and understanding of the principles of food preservation. Students require only a basic knowledge and understanding of the following:

- food spoilage
 - natural decay
 - action of enzymes
 - contamination by microorganisms
- food poisoning
 - bacteria
 - toxins
 - infections
 - factors affecting growth
 - temperature, time, food, pH, O₂, moisture
- food hygiene
 - correct handling
 - correct cooking
 - correct storage of food stuffs
 - danger zone
- kitchen hygiene
- personal hygiene
 - cross-contamination
- The Food Safety Act 1990
 - The Food Hygiene (England), Regulations 2006.

Topic 3.2 Preservation methods**What students need to learn**

Knowledge and understanding of the methods of food preservation:

- hot — heat in reducing number of microbes
- cold — removal of heat
- dry — removal of water
- chemical — additives
- packaging — modified atmosphere packaging (MAP)/vacuum
- irradiation.

Topic 3.3 Processing**What students need to learn**

An understanding of the principles of food processing:

- primary
 - basic treatment of raw food materials to make them suitable for either further food processing or immediate consumption, for example, pasteurisation of milk, milling wheat, washing fruit and vegetables
- secondary
 - further treatment to make food materials into food products, for example, milk made into cheese, flour made into bread, meat into burgers.

Topic 3.4 Food preparation techniques — home**What students need to learn**

Knowledge and understanding of names, uses, advantages/disadvantages and safety issues of food preparation techniques used in the home:

- by hand, using basic equipment, small electrical equipment
 - kitchen scales, measuring jugs, spoons
 - selecting right knife for right job, for example vegetable knife, a small knife for preparing fruit and vegetables
 - colander and sieves
 - grater
 - cutters
 - mixing bowls and pudding basins
 - cake tins, baking trays, bun and muffin tins, cooling tray
 - hand-held whisks
 - balloon, balloon and aerator ball, rotary, spiral (curly) and French
 - electric
 - pastry brush, spatula, fish slice, palette knife, scissors
 - correct pan for correct cooking method, quantity and food material, for example, wok for stir frying
 - rolling pin.

- electrical equipment
 - hand-held and free standing whisk and mixers
 - hand-held and free standing blenders
 - food processor
 - attachments, for example grater/slicer
 - bread maker
 - microwave
 - kettle
- cleaning
- peeling
- size reduction
 - pulp
 - slice
 - dice
 - chop
 - grate
 - mincing
- mixing and combining
- blanching.

Topic 3.5 Food processing techniques — home**What students need to learn**

Knowledge and understanding of names, uses, advantages/disadvantages and safety issues of food processing techniques used in the home:

- methods of cooking — moist
 - boiling
 - poaching
 - steaming
 - stewing
 - braising
- methods of cooking — dry
 - baking
 - roasting
 - grilling
 - barbecuing
- other methods
 - frying
 - microwave
- other processing methods
 - shaping and forming
 - piping.

Topic 3.6 Food preservation techniques — home**What students need to learn**

Knowledge and understanding of names, uses, advantages/disadvantages and safety issues of food preservation techniques used in the home:

- freezing
- drying
 - use of oven or microwave to dry foods, for example, herbs, fruit
- chemicals
 - acids, for example, lemon juice, vinegar
 - sugar
 - salt.

Topic 3.7 Food preparation techniques — industry**What students need to learn**

Knowledge and understanding of names, uses, advantages/disadvantages and safety issues of food preservation techniques used in industry:

- an awareness of the stages in the commercial manufacture of food products using machinery
 - cleaning
 - peeling
 - sorting
- size reduction
 - pulping
 - slicing
 - dicing
 - milling
 - grinding
 - shredding
 - chopping
 - grating
- mixing and combining
- blanching.

Topic 3.8 Food processing techniques — industry**What students need to learn**

Knowledge and understanding of names, uses, advantages/disadvantages and safety issues of food processing techniques used in industry:

- an awareness that food materials are processed on an industrial scale using large machinery
 - silos and vats for storage of raw materials
 - materials pumped through pipes to preparation area
 - larger versions of domestic equipment, for example, mixing
 - machines, rollers
 - products moved by conveyor belt
 - depositors and injectors to dispense materials
 - travelling ovens
 - blast chillers and freezers.

An understanding of the concept of HACCP (Hazard Analysis and Critical Control Point).

Topic 3.9 Food preservation techniques — industry**What students need to learn**

Knowledge and understanding of names, uses, advantages/disadvantages and safety issues of food preservation techniques used in industry:

- hot
 - pasteurisation
 - sterilisation
 - UHT (ultra heat treatment)
 - canning
- cold
 - chilling
 - freezing
 - cook chill/freeze
- dry
 - sun drying
 - spray drying
 - AFD (accelerated freeze drying)
- chemical
 - preservatives
- specialist packaging
 - MAP (modified atmosphere packaging)
 - vacuum packaging.

Topic 3.10 Additives that change**What students need to learn**

Knowledge and understanding that additives and standard components are used in both home and industry food processing. Functional properties and use of the following:

- sensory characteristics
 - colours
 - flavours
 - artificial sweeteners
 - herbs and spices
- physical characteristics
 - emulsifiers
 - stabilisers
 - gelling, setting, thickening agents
 - raising agents
- storage characteristics
 - preservatives
 - antioxidants
- nutritional characteristics
 - food fortification and use of nutrients
- aids to processing
 - anti-caking agents
- other additives
 - acidity regulators and buffers.

Chemical names and E numbers of individual additives are not required.

Topic 3.11 Standard components**What students need to learn**

A knowledge and understanding that additives and standard components are used in both home and industry food processing. Functional properties and use of the following:

- pastries and doughs
 - flan cases, pizza bases, pasta
- powdered mixes
 - cake, biscuit, pastry, scone, bread
 - soups
 - sauces and gravies
 - desserts, for example, cream, custard, lemon meringue pie
 - filling, trifle
- other standard components
 - stock cubes
 - baking powder
 - pre-blended spices
 - dried and tinned fruit.

Chemical names and E numbers of individual additives are not required.

Topic 4 Product manufacture**Topic 4.1** Production methods**What students need to learn**

A knowledge and understanding of production methods within the food industry:

- one-off
 - specialist single items, for example wedding or celebration cake
- batch
 - fixed quantities of identical items
 - for stock or to order, for example biscuits, sandwiches, ready-prepared meals, desserts, soups (not canned)
- high volume
 - 24/7 production line to produce large quantities of identical items, for example bread, crisps, soft drinks.

Topic 4.2 Product and recipe development**What students need to learn**

A knowledge and understanding of product and recipe development within the food industry:

- specifications
 - design, product, nutritional, manufacturing
 - meeting user needs, for example, low calorie, sports, functional products, vegetarian, medical diet
 - recipe modification
 - changing ingredients to make product suitable for a special diet, for example, lactose intolerant, suitable for other cultures, enrichment by adding eggs to dough mixtures
 - sensory analysis
 - nutritional analysis
 - presentation
 - appeal of product, appearance, taste, texture, taste
 - standard components and uses
 - finishing processes
 - enhancement of appeal of product, for example, piping and glazing
- scaling up of recipe
- storage and distribution of commercial food products.

Topic 4.3 Technological development (modern, novel and smart materials)**What students need to learn**

Knowledge and understanding of technological development within the food industry. Modern/novel/smart materials:

- man-made
 - modified starches
- functional
 - nutraceuticals
 - pre/probiotics
- novel function
 - sweeteners
 - stabilisers
 - emulsifiers
 - gelling agents
- specially developed
 - meat analogues: Quorn™, tofu, soya
- biotechnology
 - chymosin
- nano technology.

Knowledge, understanding and advantages/disadvantages of GM (genetically modified) food.

Topic 4.4 Quality**What students need to learn**

Knowledge and understanding of quality within the food industry:

- control
 - checking quality of product during and at end of production
 - quality control points
 - visual inspections
 - weight
 - random sampling
 - metal detector tests
- assurance
 - that standards have been met
 - product meets all points on specification
 - quality control has been maintained throughout the process
 - legal requirements have been met
- manufacture
 - accurate weighing and measuring
 - use of critical dimensions and tolerances
- design
 - creating a design that is well planned and:
 - is easy to make
 - has a clear specification
 - has a clear production process
 - meets the need of the target group.

Topic 4.5 Issues

What students need to learn

Knowledge and understanding of issues within the food industry:

- moral
 - factory farming
 - GM
 - Fairtrade
 - organic
- environmental
 - food miles
 - sustainability
 - pollution
 - packaging
- cultural
 - religious beliefs
 - vegetarianism.

Topic 4.6 ICT**What students need to learn**

Knowledge and understanding of ICT within the food industry. Students only need to have an awareness of the uses of ICT:

- CAD (computer-aided design)
 - adding pictures to text, for example, packaging
 - clipart, scanned images, digital photographs
 - using CAD packages, for example, product development
 - spider diagrams, product profiles, packaging nets, food labels, design ideas
 - databases
 - recipes
 - modelling
 - nutritional databases
 - spreadsheets
 - scaling
 - costing
 - stock control
- CAM (computer-aided manufacture)
 - monitors and controls the automatic production of food products based on set specifications and tolerances
 - sensors and quality control
 - single item production, for example, breadmaker
- CIM (computer-integrated manufacturing)
 - all stages in a food production process are integrated and controlled by computer systems
 - computers are linked in a network and control both the machinery and the flow of information during the process
- ICT and CAM in single item production
 - microwave ovens, timers, breadmakers, edible icing printer.

Topic 4.7 Packaging**What students need to learn**

Knowledge and understanding of packaging within the food industry:

- materials (use of packaging materials)
 - glass
 - plastic
 - metal and foil
 - paper and cardboard
- function of packaging
 - protection
 - safety and hygiene
 - increase shelf life
 - to contain contents
 - storage
 - attract consumer
 - convey information
- uses
 - suitability for food materials
 - advantages and disadvantages of packaging materials
- specialist packaging and reasons for use
 - MAP (modified atmosphere packaging)
 - tamper-evident seals.

Topic 4.8 Labelling**What students need to learn**

Knowledge and understanding of labelling within the food industry:

- legal information for consumers
 - name of the food
 - descriptor (describes product if name does not make this clear, for example, lasagne)
 - any special treatment or processing, for example, smoked
 - the ingredients (in descending order)
 - additives
 - instructions for use, cooking, storage
 - date mark (use, sell by and best before)
 - net quantity
 - name and address of manufacture
 - place of origin
 - special claims
 - allergies
 - nutritional, for example, low in fat or high in fibre
 - organic
 - processing and treatments.

Students only need to know that the name of the food must include an indication of its physical condition or treatment where a purchaser could be misled if that information is omitted, for example, milk (UHT), fish (smoked), cheese (unpasteurised), vegetables (frozen).

- Additional information for consumers
 - nutritional claim (needs to be shown only if a nutritional claim is made, for example, low in fat)
 - serving suggestion
 - average portions
 - opening instructions
 - environmental issues, including disposal of waste
 - additional claims
 - free from range
 - dietary guidelines.
- Information for retailer and manufacturer
 - bar codes
 - batch numbers
 - best before, use buy and display until.

Topic 5 Analysing products

Topic 5.1 Importance of analysing products

What students need to learn

To understand why product analysis is an important part of product development:

- Who uses it?
- Why is it used?

Topic 5.2 How to analyse food products**What students need to learn**

To know and understand how to analyse a food product:

- analysing products
 - similar, for example a range of own brand products
 - ready meals: curry and rice, shepherd's pie, lasagne, pasta bake, fish pie
 - desserts: lemon meringue pie, trifle, fruit flan
 - comparison, for example, ordinary biscuits with low fat biscuits, own brand chocolate with market leader, value line meat product with luxury meat product
 - consider one-off, batch and continuous products
- disassembly
 - agreed set criteria
 - sensory analysis of product and components
 - taste, texture, smell, appearance, flavour
 - tests
 - paired preference, hedonic ranking, triangle, duo-trio, ranking, rating, profiling
 - weighing of product and components
 - method of production
 - individual ingredients used in product
 - investigate nutritional information
 - from labelling
 - from student's own research
 - function of ingredients
 - generating specification for product
 - packaging
 - information
 - environmental issues
 - shelf life

- storage
- moral issues
 - GM ingredients
 - Fairtrade
 - irradiated
 - food miles
- cultural issues
 - designed for a particular cultural group
- target market group
- value for money
- evaluation of product
- quality of design
 - meeting needs of target group
 - value for money
 - shelf life
 - safety
 - choice and proportion of ingredients and components
 - does it do what manufacturer claims it can do?
 - design of packaging
 - suitability
 - promotion of product
- quality of manufacture
 - organoleptic (sensory) qualities: appearance, taste, texture, smell, sound
 - consistent quality
 - legal requirements for safety
 - quality of packaging construction.

B Assessment

Assessment summary

Unit 1 is internally assessed under controlled conditions.

Unit 2 is externally assessed through a 1-hour and 30-minute examination paper.

Summary of table of assessment

Unit 1	Creative Design and Make Activities	Unit code: 5FT01
	<ul style="list-style-type: none">• This unit is internally assessed under controlled conditions.• Students must complete a design and make activity. These activities can be linked (combined design and make) or separate (design one product, manufacture another).• Centres will choose a task(s) from a range provided by Edexcel (available on our website at the start of each academic year). These tasks can be contextualised to best suit centre-specific circumstances.• All work, with the exception of research and preparation, must be done under informal supervision. Research and preparation may be completed under limited supervision.• Students need to complete their designing and making within 40 hours of informal supervision.• Marking of task(s) will be carried out by teachers and moderated by Edexcel.• There are eight assessment criteria for designing and five assessment criteria for making.• There is a total of 50 raw marks available for the designing and 50 raw marks available for the making. One overall raw mark out of 100 is required.• The first submission of students' work will be in June 2014 and in each June series thereafter.	
Unit 2	Knowledge and Understanding of Food Technology	Unit code: 5FT02
	<ul style="list-style-type: none">• This unit is assessed through a 1-hour and 30-minute examination paper set and marked by Edexcel.• The examination paper will be a question and answer booklet and all questions are compulsory.• The examination paper will consist of multiple-choice, short-answer and extended-writing questions.• The total number of raw marks available is 80.• The first examination will be in 2014 and will be available in each June series thereafter.	

Assessment Objectives and weightings

	% in GCSE
AO1: Recall, select and communicate their knowledge and understanding in design and technology including its wider effects.	30%
AO2: Apply knowledge, understanding and skills in a variety of contexts and in designing and making products.	53%
AO3: Analyse and evaluate products, including their design and production.	17%
TOTAL	100%

Relationship of Assessment Objectives to units

Unit number	Assessment Objective			
	AO1	AO2	AO3	Total for AO1, AO2 and AO3
Unit 1	6%	45%	9%	60%
Unit 2	24%	8%	8%	40%
Total for GCSE	30%	53%	17%	100%

Entering your students for assessment

Student entry

From summer 2014 onwards students will be required to sit all their examinations and submit controlled assessment work for moderation at the end of the course. Students may complete the controlled assessment task(s) at any appropriate point during the course.

Details of how to enter students for this qualification can be found in Edexcel's *UK Information Manual*, a copy is sent to all examinations officers. The information can also be found on Edexcel's website: www.edexcel.com.

Forbidden combinations and classification code

Centres should be aware that students who enter for more than one GCSE qualification with the same classification code will have only one grade (the highest) counted for the purpose of the school and college performance tables.

Students should be advised that, if they take two specifications with the same classification code, schools and colleges are very likely to take the view that they have achieved only one of the two GCSEs. The same view may be taken if students take two GCSE specifications that have different classification codes but have significant overlap of content. Students who have any doubts about their subject combinations should check with the institution to which they wish to progress before embarking on their programmes.

Access arrangements and special requirements

Edexcel's policy on access arrangements and special considerations for GCE, GCSE, and Entry Level is designed to ensure equal access to qualifications for all students (in compliance with the Equality Act 2010) without compromising the assessment of skills, knowledge, understanding or competence.

Please see the Edexcel website (www.edexcel.com) for:

- the Joint Council for Qualifications (JCQ) policy *Access Arrangements, Reasonable Adjustments and Special Consideration*
- the forms to submit for requests for access arrangements and special considerations
- dates for submission of the forms.

Requests for access arrangements and special considerations must be addressed to:

Special Requirements
Edexcel
One90 High Holborn
London WC1V 7BH

Equality Act 2010

Please see the Edexcel website (www.edexcel.com) for information regarding the Equality Act 2010.

Controlled assessment

In controlled assessments, control levels are set for three linked processes: task setting, task taking and task marking. The control levels (high, medium or limited dependent on the subject) are set for each process so that the overall level of control secures validity and reliability, provides good manageability for all involved and allows teachers to authenticate the student work confidently.

The summary of the controlled conditions for this specification are shown below.

Summary of conditions for controlled assessment

The development of the student's design folder and the manufacture of the product(s) must take place under controlled conditions. Students will be supervised by a teacher at all times.

Student work must be collected in at the end of the lesson and handed back at the beginning of the next lesson. Students must produce their work individually.

Controlled assessment has levels of control for task setting, task taking and task marking. For design and technology these are as follows.

Task setting – high level of control

Tasks will be set by Edexcel. Centres will choose from a list available on our website in September at the start of each academic year. Tasks will be reviewed every two years.

Centres can contextualise the task(s) to best suit their specific circumstances, which includes the availability of and access to resources.

Task taking – medium level of control

All work, with the exception of research and preparation, must be done under informal supervision. Research and preparation may be completed under limited supervision.

Task marking – medium level of control

Marking of tasks will be carried out by teachers and moderated by Edexcel.

Internal standardisation

Teachers must show clearly how the marks have been awarded in relation to the assessment criteria. If more than one teacher in a centre is marking students' work, there must be a process of internal standardisation to ensure that there is consistent application of the assessment criteria.

Authentication

All students must sign an authentication statement. Statements relating to work not sampled should be held securely in your centre. Those which relate to sampled students must be attached to the work and sent to the moderator. In accordance with a revision to the current Code of Practice, any student unable to provide an authentication statement will receive zero credit for the component. Where credit has been awarded by a centre-assessor to sampled work without an accompanying authentication statement, the moderator will inform Edexcel and the mark adjusted to zero.

Further information

For more information on annotation, authentication, mark submission and moderation procedures, please refer to the *Edexcel GCSE in Design and Technology: Instructions and administrative documentation for internally assessed units* document, which is available on the Edexcel website.

For up-to-date advice on teacher involvement, please refer to the Joint Council for Qualifications (JCQ) *Instructions for conducting coursework/portfolio* document on the JCQ website: www.jcq.org.uk. For up-to-date advice on malpractice and plagiarism, please refer to the Joint Council for Qualifications (JCQ) *Suspected Malpractice in Examinations: Policies and Procedures and Instructions for conducting coursework/portfolio* documents on the JCQ website (www.jcq.org.uk).

Assessing your students

The assessment opportunity for Unit 1 and Unit 2 of this qualification will take place in the June series for the lifetime of the specification.

Your student assessment opportunities

Unit	June 2014	June 2015	June 2016	June 2017
Unit 1: Creative Design and Make Activities	✓	✓	✓	✓
Unit 2: Knowledge and Understanding of Food Technology	✓	✓	✓	✓

Awarding and reporting

The grading, awarding and certification of this qualification will comply with the requirements of the current GCSE/GCE Code of Practice, which is published by the Office of Qualifications and Examinations Regulation (Ofqual). The GCSE qualification will be graded and certificated on an eight-grade scale from A* to G. Individual unit results will be reported.

Students whose level of achievement is below the minimum judged by Edexcel to be of sufficient standard to be recorded on a certificate will receive an unclassified U result.

Unit results

The minimum uniform marks required for each grade for each unit:

Unit 1

Unit grade	*A	A	B	C	D	E	F	G
Maximum uniform mark = 120	108	96	84	72	60	48	36	24

Students who do not achieve the standard required for a grade G will receive a uniform mark in the range 0–23.

Unit 2

Unit grade	*A	A	B	C	D	E	F	G
Maximum uniform mark = 80	72	64	56	48	40	32	24	16

Students who do not achieve the standard required for a grade G will receive a uniform mark in the range 0–15.

Qualification results

The minimum uniform marks required for each grade:

GCSE Award in Design and Technology: Food Technology cash-in code: 2FT01

Qualification grade	*A	A	B	C	D	E	F	G
Maximum uniform mark = 200	180	160	140	120	100	80	60	40

Students who do not achieve the standard required for a grade G will receive a uniform mark in the range 0–39.

Re-taking of qualifications

Students wishing to re-take a GCSE are required to re-take all the units in the qualification. Students will be permitted to carry forward the result from the controlled assessment unit if they wish and only re-take the externally-assessed unit.

Language of assessment

Assessment of this specification will be available in English only. Assessment materials will be published in English only and all work submitted for examination and moderation must be produced in English.

Quality of written communication

Students will be assessed on their ability to:

- write legibly, with accurate use of spelling, grammar and punctuation in order to make the meaning clear
- select and use a form and style of writing appropriate to purpose and complex subject matter
- organise relevant information clearly and coherently, using specialist vocabulary when appropriate.

Stretch and challenge

Students can be stretched and challenged in all units through the use of different assessment strategies, for example:

- using a variety of stems in questions – such as evaluate and discuss
- a requirement for extended writing.

Malpractice and plagiarism

For up-to-date advice on malpractice and plagiarism, please refer to the Joint Council for Qualifications *Suspected Malpractice in Examinations: Policies and Procedures* document on the JCQ website www.jcq.org.uk.

Student recruitment

Edexcel's access policy concerning recruitment to our qualifications is that:

- they must be available to anyone who is capable of reaching the required standard
- they must be free from barriers that restrict access and progression
- equal opportunities exist for all students.

Progression

This qualification supports progression to:

- further education, including the GCE in Design and Technology: Food Technology
- training or employment.

Grade descriptions

A	<p>Learners recall, select and communicate detailed knowledge and thorough understanding of design and technology, including its wider effects.</p> <p>They apply relevant knowledge, understanding and skills in a range of situations to plan and carry out investigations and tasks effectively. They test their solutions, working safely and with a high degree of precision.</p> <p>They analyse and evaluate the evidence available, reviewing and adapting their methods when necessary. They present information clearly and accurately, making reasoned judgements and presenting substantiated conclusions.</p>
C	<p>Learners recall, select and communicate sound knowledge and understanding of design and technology, including its wider effects.</p> <p>They apply knowledge, understanding and skills in a range of situations to plan and carry out investigations and tasks. They test their solutions, working safely and with precision.</p> <p>They review the evidence available, analysing and evaluating some information clearly, and with some accuracy. They make judgements and draw appropriate conclusions.</p>
F	<p>Learners recall, select and communicate knowledge and understanding of basic aspects of design and technology, including its wider effects.</p> <p>They apply limited knowledge, understanding and skills to plan and carry out simple investigations and tasks, with an awareness of the need for safety and precision. They modify their approach in the light of progress.</p> <p>They review their evidence and draw basic conclusions.</p>

C Resources, support and training

Edexcel resources

The resources from Edexcel provide you and your students with comprehensive support for our GCSE in Design and Technology: Food Technology qualification. These materials have been developed by subject experts to ensure that you and your department have appropriate resources to deliver the specification.

Edexcel publications

You can order further copies of the specification and sample assessment materials (SAMs) documents from:

Edexcel Publications
Adamsway
Mansfield
Nottinghamshire NG18 4FN

Telephone: 01623 467467
Fax: 01623 450481
Email: publication.orders@edexcel.com
Website: www.edexcel.com

Endorsed resources

Edexcel also endorses some additional materials written to support this qualification. Any resources bearing the Edexcel logo have been through a quality assurance process to ensure complete and accurate support for the specification. For up-to-date information about endorsed resources, please visit www.edexcel.com/endorsed.

Please note that while resources are checked at the time of publication, materials may be withdrawn from circulation and website locations may change.

Edexcel support services

Edexcel has a wide range of support services to help you implement this qualification successfully.

ResultsPlus — ResultsPlus is an application launched by Edexcel to help subject teachers, senior management teams, and students by providing detailed analysis of examination performance. Reports that compare performance between subjects, classes, your centre and similar centres can be generated in 'one-click'. Skills maps that show performance according to the specification topic being tested are available for some subjects. For further information about which subjects will be analysed through ResultsPlus, and for information on how to access and use the service, please visit www.edexcel.com/resultsplus

Ask the Expert — To make it easier for you to raise a query with us online, we have merged our **Ask Edexcel** and **Ask the Expert** services.

There is now one easy-to-use web query form that will allow you to ask any question about the delivery or teaching of Edexcel qualifications. You'll get a personal response, from one of our administrative or teaching experts, sent to the email address you provide.

We're always looking to improve the quantity and quality of information in our FAQ database, so you'll be able to find answers to many questions you might have by searching before you submit the question to us. You can access this service at www.edexcel.com/ask.

Support for Students

Learning flourishes when students take an active interest in their education; when they have all the information they need to make the right decisions about their futures. With the help of feedback from students and their teachers, we've developed a website for students that will help them:

- Understand subject specifications
- Access past papers and mark schemes
- Find out how to get exams remarked
- Learn about other students' experiences at university, on their travels and entering the workplace

We're committed to regularly updating and improving our online services for students. The most valuable service we can provide is helping schools and colleges unlock the potential of their learners.

www.edexcel.com/students

Training

A programme of professional development and training courses, covering various aspects of the specification and examination, will be arranged by Edexcel each year on a regional basis. Full details can be obtained from:

Training from Edexcel
Edexcel
One90 High Holborn
London WC1V 7BH

Telephone: 0844 576 0027
Email: trainingbookings@edexcel.com
Website: www.edexcel.com

D Appendices

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Appendix 1 Key skills

Signposting

Key skills (Level 2)	Unit 1	Unit 2
Application of number		
N2.1	✓	
N2.2	✓	
N2.3	✓	
Communication		
C2.1a		✓
C2.1b		✓
C2.2		✓
C2.3		✓
Information and communication technology		
ICT2.1	✓	✓
ICT2.2	✓	✓
ICT2.3	✓	✓
Improving own learning and performance		
LP2.1	✓	
LP2.2	✓	
LP2.3	✓	
Problem solving		
PS2.1	✓	
PS2.2	✓	
PS2.3	✓	
Working with others		
WO2.1		✓
WO2.2		✓
WO2.3		✓

Development suggestions

Please refer to the Edexcel website for key skills development suggestions.

Appendix 2 Wider curriculum**Signposting**

Issue	Unit 1	Unit 2
Spiritual	✓	✓
Moral		✓
Ethical		✓
Social		✓
Cultural	✓	✓
Environmental	✓	✓
European initiatives	✓	
Health and safety	✓	✓
Legislative	✓	✓
Economic	✓	✓
Sustainable	✓	✓

Development suggestions

Issue	Unit	Opportunities for development or internal assessment
Spiritual	Units 1 and 2	<ul style="list-style-type: none"> By confronting moral, cultural or environmental decisions at every stage of design and technology work and through doing the 'right thing', achieving a feeling of wellbeing and spirituality.
Moral	Unit 2	<ul style="list-style-type: none"> Sustainability issues for safeguarding the quality of life for future generations through cleaner design and technology.
Ethical	Unit 2	<ul style="list-style-type: none"> Ethical design and manufacture — the consideration of 'value' issues when designing and manufacturing commercial food products.
Social	Unit 2	<ul style="list-style-type: none"> Uses of ICT in the development, manufacture and sale of food products in the global marketplace.
Cultural	Units 1 and 2	<ul style="list-style-type: none"> Unit 1: researching the needs of different cultures when analysing the design brief. Units 1 and 2: tolerance of different cultures to avoid offence.
Environmental	Units 1 and 2	<ul style="list-style-type: none"> Unit 1: consideration of 'environmentally friendly' features when designing and making a food product. Unit 2: sustainable product design by minimising waste production throughout the life cycle of the food product.
European initiatives	Unit 1	<ul style="list-style-type: none"> Researching appropriate nutritional advice when constructing a design specification or working with a manufacturing specification. Consider appropriate British and European food legislation with regard to additives, ingredients and labelling requirements when producing a food manufacturing specification.
Health and safety	Units 1 and 2	<ul style="list-style-type: none"> Demonstrate and understand a high level of safety awareness throughout all stages of the manufacture of a food product.
Legislative	Units 1 and 2	<ul style="list-style-type: none"> Identify and undertake risk assessments for practical activities according to HSE legislation.
Economic	Units 1 and 2	<ul style="list-style-type: none"> Unit 1: set budgetary constraints when developing a design specification. Unit 2: the economic viability of imported raw materials/ food supplies in comparison to local produce.
Sustainable	Units 1 and 2	<ul style="list-style-type: none"> Unit 1: writing a design specification taking into consideration issues of sustainability that will affect the food product design. Unit 2: take into account the food process from field to plate by evaluating the effectiveness of using home grown, local, organic and seasonal produce on sustainability.

Appendix 3 Codes

Type of code	Use of code	Code number
National classification codes	Every qualification is assigned to a national classification code indicating the subject area to which it belongs. Centres should be aware that students who enter for more than one GCSE qualification with the same classification code will have only one grade (the highest) counted for the purpose of the school and college performance tables.	9020
National Qualifications Framework (NQF) codes	Each qualification title is allocated a National Qualifications Framework (NQF) code. The National Qualifications Framework (NQF) code is known as a Qualification Number (QN). This is the code that features in the DfE Section 96 and on the LARA as being eligible for 16–18 and 19+ funding, and is to be used for all qualification funding purposes. The QN is the number that will appear on the student's final certification documentation.	The QN for this qualification is: GCSE — 500/4419/9
Unit codes	Each unit is assigned a unit code. This unit code is used as an entry code to indicate that a student wishes to take the assessment for that unit. Centres will need to use the entry codes only when entering students for their examination.	Unit 1 — 5FT01 Unit 2 — 5FT02
Cash-in codes	The cash-in code is used as an entry code to aggregate the student's unit scores to obtain the overall grade for the qualification. Centres will need to use the entry codes only when claiming students' qualifications.	GCSE — 2FT01
Entry codes	The entry codes are used to: <ul style="list-style-type: none"> • enter a student for the assessment of a unit • aggregate the student's unit scores to obtain the overall grade for the qualification. 	Please refer to the <i>Edexcel UK Information Manual</i> , available on the Edexcel website.

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