

Version 1.0

# GCSE 2004

## *June Series*



## Report on the Examination

# **Design and Technology:** *Food Technology*

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- Full Course
- Short Course

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# *Design and Technology: Food Technology*

## **Examination paper**

### **General**

This year's paper represented a varied and demanding range of questions, which challenged candidates' knowledge relating to the Research Context of Multicultural and the design theme of Ready Prepared Vegetable Products.

The majority of centres had used the Preparation Sheet well and prepared candidates appropriately for the examination. However, it was evident that a small number of centres at all levels of entry were not making full use of the information given on the preparation sheet and some candidates were entered for the wrong tier of entry.

Generally, candidates answered questions well and showed good subject knowledge with more able candidates giving clear, detailed answers. The majority of candidates attempted all questions on the paper and there were few gaps evident in their responses. The handwriting of some candidates was poor and generic style answers frequently meant candidates lost marks. However, the quality of written work seen on the foundation papers was generally of a better standard than seen in previous years. The use of annotated sketches was of a high standard and free response questions showed a high level of understanding by many candidates.

This year it was evident that for some questions candidates had not read the questions carefully or were not using the mark allocation to judge how much detail was needed. Marks were lost by relating products to industrial contexts rather than test kitchens or to quality control rather than critical control. Candidate responses also showed a lack of nutritional knowledge related to the product range.

## Full Course Foundation

### Question 1

- (a) (i) Generally well answered although some candidates only gave one word answers where a more detailed phrase or sentence would have indicated better understanding.
- (ii) A reasonable response although at times quite limiting in ideas for questions. Many candidates lost a mark by repeating the wording from the question, i.e. ‘What type of vegetable product would you buy?’
- (b) (i) Most candidates answered this well.
- (ii) Well answered, explanations were detailed, many used the data to give full reasons.
- (iii) Generally responses showed a lack of understanding. Most candidates gaining one mark with the knowledge that carbohydrates provide energy. Many showed a lack of understanding by including information about dietary fibre or by saying that energy is ‘lost’ when food is stir-fried.
- (c) Many candidates confused the question and gave answers about the reasons why more people are adopting a vegetarian lifestyle or referring to healthy eating.

### Question 2

- (a) (i) Very well answered on the whole. Sketches were good and showed sufficient differences to denote differing design ideas. Where candidates did not score well, it was due to a lack of or poor annotation, which was basically a list of toppings and not a clear indication of how the designs met the design criteria.
- (ii) A poor response, most candidates repeated the design criteria from the question with out giving detailed examples of how the design criteria had been met.
- (b) (i) Generally a weak response, only a minority of candidates attempted to develop the design specification by adding detail. Many appeared not to understand what a design specification would entail.
- (ii) A mixed response to this question, good answers showed an understanding of the basic ingredients, quantities and the reasons for using them when making their designed product. Poor responses showed a lack of knowledge of a workable recipe, mixed metric and imperial weights and gave only vague and repetitious reasons.

Overall a reasonably answered question although few candidates correctly identified two critical control points, many confusing these with quality control points. Many candidates did not actually state which were the CCPs. However, many showed knowledge of a workable plan of action and a variety of methods were used to display this, i.e. flowcharts, bullet lists and tables etc.

**Question 3**

- (a) Poorly answered. Very few candidates correctly identified methods of developing the vegetable soup to appeal to different cultures.
- (b) Generally well answered by the majority of candidates.
- (c) Well answered. Most candidates correctly identified safety points, although some confused the question and gave points relating to hygiene.

**Question 4**

- (a) Very well answered with many candidates scoring highly. Where candidates lost marks it was mainly for repeating control check and not giving different ones for each stage.
- (b) There was a mixed response to this question. It was disappointing to note how many candidates did not know the temperature ranges.
- (c) A well answered question with most candidates showing a clear understanding of the use of a food probe.

**Question 5**

Candidates did not make use of the mark allocation to judge how much detail to include, consequently responses were often vague and repetitive i.e. cause -‘pastry is too thin’, and prevention -‘make base thicker’.

**Question 6**

- (a) As has been noted in the past, candidates still have difficulty differentiating different production methods.
- (b) Parts (i)-(iv) produced mixed responses. Many candidates answered well to gain full marks, however, some candidates clearly had difficulty in extracting data from the spreadsheet.
- (c) This question was well answered.
- (d) This was well answered on the whole, showing good sketching skills, annotation and knowledge about the materials and their functions.

**Question 7**

- (a)
  - (i) Very well answered.
  - (ii) Most candidates answered this question well, although many candidates still believe that freezing ‘kills’ bacteria.
- (b) Generally a weak response with candidates not using the mark allocation to give detailed responses.
- (c) A mixed response to this question with few candidates gaining full marks. Most referred to longer storage time or ease of use of frozen vegetables.

## Full Course Higher

### Question 1

- (a) (i) Most candidates gave three clear and different methods of gathering information. The most common methods stated were internet research, questionnaires, surveys and supermarket research.
- (ii) This section was generally well answered with clear communication of where the research would take place. More able candidates indicated the method of recording, analysing and evaluating the results.
- (b) Relatively few candidates gained full marks. Minimal answers were very general, referring to low fat and low sugar without further explanation. Better quality responses made reference to the numerical data, to individual products, linking their nutritional value with healthy eating guidelines.
- (c) A good understanding was shown and detailed well balanced points put forward for both advantages and disadvantages to consumers.

### Question 2

- (a) (i) There was a much wider range of interesting, accurate and different designs this year. The most popular products were quiches, pies, pasties, samosas and spring rolls. An improvement was shown in the quality of sketching, with commendable use of colour and detailed complimentary notes/annotation. A few candidates designed two similar vegetarian products and changed only the flavour and lost marks as a result.
- (ii) There was a tendency for the less able candidates to simply copy the given design criteria and consequently gained only half marks. A pleasing number of candidates did, however, expand in detail how their product would meet the design criteria.
- (b) (i) Knowledge of a product specification was generally poor. Most gave vague repetitions of the earlier design criteria. However, there were some candidates who developed the criteria and added appropriate detail, for example, dimensions of the vegetable pieces, quantity of portion size, named types of pastry and nutritional details.
- (ii) The recipe for the chosen product was often inaccurate for the pastry but more accurate for the filling. To attain full marks, the recipe needed to be in workable quantities. Quantities of ingredients were accepted in metric or imperial measurements but not with a mixture of both. Proportions needed to be correct and suitable for a prototype in a test kitchen. A small number of candidates related their product to large scale industrial production methods and as a result lost marks. Some candidates also included lard as a pastry ingredient which is incorrect for a vegetarian product. Functions of ingredients were well done and showed a range of knowledge covering both scientific, aesthetic and sensory functions.
- (iii) Most candidates produced a plan giving clear instructions for making, including timings, temperatures and named processes. However, food, personal and kitchen hygiene points were often omitted. Feedback was not completed very successfully and many responses showed lack of understanding and annotation. Critical control points were often confused with quality control points.



**Question 3**

- (a) A well answered question with the majority of candidates showing familiarity with the identification of sensory improvements and detailed corrective measures. A few candidates lost marks by giving generic answers rather than named herbs, spices, vegetables and finishing techniques.
- (b)
  - (i) There was a clear understanding of quality control points during the production of samosas. Many mentioned the use of templates, CAM, and working to designated tolerances.
  - (ii) This section was poorly answered because many candidates did not understand or failed to read the question correctly. More successful candidates identified and explained why samosas should be drained, using absorbent paper, higher temperatures for shorter lengths of time.

**Question 4**

- (a)
  - (i) Candidates did not score well on this question. Responses were often confused and did not show understanding of the concept of critical controls being linked to health and safety hazards which may lead to a harmful product.
  - (ii) Quality control checks were better known and understood although many candidates gave generic answers referring to high standards without giving any specific examples relating to shape, colour, texture and taste.
- (b) Virtually all candidates gave the correct answers to temperature ranges. Where mistakes were made it was due to confusion between danger zone and reheating temperatures.
- (c) Most candidates could correctly explain how to safely use a food probe.

**Question 5**

- (a) Most candidates gained full marks although ideas were not very imaginative.
- (b) Safety rules were well answered. Most candidates could recognise potential hazards and suggested safety precautions.
- (c) Most candidates showed good understanding of the use of CAM and clearly explained the benefits of time and temperature control, the safety of workers and the consistency of products.

**Question 6**

- (a) Very few candidates had a detailed knowledge of batch production. The majority scored only one mark.
- (b)
  - (i) Almost all candidates answered this question well showing familiarity with ICT and a good understanding of the use of spreadsheets to work out the final selling price.
  - (ii) Candidates were able to recognise that ingredients could be bought in bulk and discounted, and that similar or alternative ingredients could be purchased.

- (c) The rigid plastic containers section was well answered with candidates demonstrating extended knowledge. However, modified atmosphere packaging was less well known and many confused it with vacuum packaging.
- (d) Few candidates understood that the ‘e’ symbol meant average weight and many confused it with the use of additives. Few related it to legal requirements but almost all correctly identified the link with weight.

‘Wash before use’ was poorly answered as many simply repeated the phrase without indicating its importance to removing sources of contamination or dangers to health.

‘Use by date’ was understood by many but others confused this with the best before datemark. References to ‘food going off’ were common vague answers, but more able candidates referred to the dangers of food poisoning.

### ***Question 7***

- (a) There were some excellent answers showing detailed knowledge of organic vegetables.
- (b) Candidates had obviously researched organic vegetables comprehensively and a wide range of appropriate answers were given, some giving potential effects to the environment. All candidates mentioned the harmful effects of chemicals. However, it was obvious that a minority number of centres had not used information from the preparation sheet to guide candidates as in some cases there were whole centres where incorrect answers were given and many had incorrect references to genetically modified foods.

## Short Course Foundation

### Question 1

- (a) (i) Most candidates were able to gain full marks on this question although some gave one word answers e.g. 'supermarket', which is not in itself a method of finding out information. 'Supermarkets survey of products' would have gained a mark.
- (ii) This question was attempted by the majority of candidates, although some simply repeated their answers using different words.
- (b) (i) Virtually all candidates correctly opted for stir fry or samosas.
- (ii) On the whole candidates were able to give an explanation, using information from the table. However, it was clear that some candidates were not able to interpret the table and gave some answers like 'because stir fry is low in everything' resulting in no marks being gained.
- (iii) Many candidates identified correctly that stir fry had lower protein, carbohydrate and fat content. More able candidates noted that stir fry did not have a pastry type casing around it, which increased the energy value of other dishes.

### Question 2

- (a) (i) The majority of candidates were able to sketch two pizza products which satisfied the design criteria and achieved full marks for this section. However, the quality of the sketches varied greatly. It was good to see that most candidates sketched in pencil and put detail on the sketch - either on the pizza itself or on the annotation.
- (ii) There are still many candidates who simply repeat the given design criteria, without adding how their pizza matches the given list. In order to gain maximum marks for this section, candidates must expand on the criteria e.g. 'My pizza has lots of different textures because of the thin and crusty base and the chunky pieces of pepper'.
- (b) (i) Most candidates attempted a list of ingredients for their chosen product, but some only included the topping ingredients and missed out the materials needed for the base of the pizza. Candidates who had obviously used the preparation paper and planned for the exam paper had a better knowledge of accurate quantities needed for their prototype. Too many pupils displayed a very limited knowledge of reasons for using specified ingredients - many simply repeated 'flavour and texture' all the way down their list. Only a few candidates were able to give adequate reasons for the use of the pizza base ingredients.
- (ii) On the whole candidates were able to produce a plan of making for their pizza, which showed an awareness of a logical thought process. However, the majority of candidates failed to identify two critical control points in their method - candidates had confused CCP's with Quality Assurance/Control Points. This resulted in few candidates gaining the two maximum marks awarded for that part of the answer.

### Question 3

- (a) Few candidates listed possible ingredients that could be used to develop a vegetable soup, which would appeal to different cultures e.g. the addition of hot spices would appeal to Asian people. However, a large number of candidates were able to identify general ways of developing a new soup e.g. asking different cultures about favourite vegetable ingredients that could be included in the new soup. Both specific and generic developments of soup were credited and most candidates achieved some marks on this question.
- (b) (i) The majority of candidates correctly identified a blender or a food processor, but a surprisingly large number of the pupils thought that an electric mixer or whisk would do the job appropriately.
- (ii) On the whole, this section of the question was well answered by candidates who correctly identified points concerning using electrical equipment. However, some candidates had not read the question carefully and wrote down reasons why blenders are used in food production.
- (c) Unfortunately many candidates repeated advantages for the three packaging materials instead of giving different advantages, as the question had requested and consequently did not gain full marks. There were some candidates who had misread the question and wrote disadvantages of the three different materials.

### Question 4

- (a) Some candidates simply repeated the same control check four times e.g. ‘wash hands’. It was good to see that a lot of candidates showed an awareness of quality and critical control checks that would take place throughout the making of the product. However there were many very general answers e.g. ‘check food is cooked properly’. Some centres had prepared candidates well and these showed a more detailed awareness of the checks that would take place.
- (b) Answers to this question were very general and candidates did not explain the points that they made. Consequently, few candidates gained maximum marks. It was clear that some candidates had very little knowledge of how a cheese and vegetable flan is made - although the Preparation Sheet did show a picture of this product. Some candidates believed that the cheese and vegetable flan needed to go in the fridge to set, clearly showing no knowledge of how eggs coagulate on heating. Knowledge of why the pastry base collapsed during cooking was also limited. Many candidates did correctly identify the use of metal detectors and removal of jewellery to prevent metal being found in the finished product.

### Question 5

- (a) Most candidates correctly identified three vegetables suitable for freezing, but there were some who incorrectly identified salad vegetables e.g. lettuce and cucumber which do not freeze well.
- (b) (i) A surprisingly large number of candidates were not able to give specific details about the meaning of the two star freezing guideline [\*\*]. Most candidates were aware of a link with freezing but did not give specific details about length of time or temperature - despite the fact that the symbol had been on the Preparation Sheet. Similarly, most candidates were able to refer to the weight of the product but did not acknowledge what the ‘e’ actually means. Virtually all candidates were not able to explain what ‘best before’ means, and confused this information with a ‘use by date’.

- (ii) Generally candidates were able to give three other items of information that could be shown on the package, but some made reference to storage dates. This gained no marks, as the question specifically asked for other information, not the information already given in the chart above. Careful reading of the question was needed to gain maximum marks.

### **Question 6**

- (a) Most candidates were able to identify that batch production means making more than one product. However, few candidates were able to expand on that information, and very few attained maximum marks.
- (b) Generally candidates were able to use the information on the spreadsheets to answer all four parts of the question correctly.
- (c) This part of the question was answered well by most candidates who showed a good understanding of how and why computer spreadsheets can be used in the food industry.

## **Short Course Higher**

### **Question 1**

- (a) (i) Well answered. The majority of candidates were able to identify a range of sources used to gather information.
- (ii) This was less well answered by some candidates. In a number of cases a completely different method of consumer research was given to those listed in the previous part of the question. The description of carrying out the method was often unclear and gave a list of repetitive answers. Some candidates misunderstood the question about ‘how’ to carry out the research and gave answers referring to ‘what’ would be found out. Some did not realise it was the manufacturer who was collecting the information and not the consumer.
- (b) The majority of candidates failed to use data from the table, this would have helped support the comments given. Very few candidates could give an understanding of the functions of each of the nutrients and the effects on health in order to support their answer.

### **Question 2**

- (a) (i) It was noticeable that improvement in the standard of sketches has continued, especially in the annotation. The design criteria were strongly reflected in the products chosen. Multicultural dishes were very much in evidence with many candidates sketching quiches, samosas or pasties. The majority of candidates were awarded full marks. The full/correct names of pastry types were less in evidence.
- (ii) Many candidates copied the design criteria without giving examples to support each point.
- (b) (i) Overall this was well answered with many candidates able to identify quantities, ingredients and filling accurately. Less in evidence were ‘named’ ingredients for example specific flours or fats. A number of candidates used a mixture of metric and

imperial measurements. Functions of ingredients were frequently repetitive but many correctly related links to colour, flavour and texture.

- (ii) Plans for making were frequently well produced with many candidates sketching a flow diagram. The logical process of making a product was generally correct, but detailed terminology was not always evident e.g. the phrase ‘cook’ was given when an oven temperature would have been more appropriate. The Critical Control Points were, in general, lacking and frequently confused with quality control points. A number of candidates are still unaware of the difference in working in a test kitchen as opposed to an industrial placement and gave industrial practices to support their answer.

### **Question 3**

- (a) Most candidates could identify some of the hazards and methods of controlling them, but occasionally repetitive answers were given. Packaging seems to be the one aspect that candidates found most difficult to identify clearly.
- (b) This was reasonably well answered with candidates able to identify personal safety and hygiene safety points when using a hand blender, especially with reference to the dangers of water and electricity.

There was an evident lack of understanding in using antibacterial wipes or sterilising the probe before use.

For both pieces of equipment some candidates still did not refer to ‘cross contamination’, but give just ‘contamination’ as a way of spreading bacteria.

- (c) (i) This was well answered and most candidates gained full marks for explaining in detail consistent outcomes.
- (ii) This was well answered in terms of weight, size and shape, but less well answered in naming the equipment that is used.

### **Question 4**

- (a) Batch production was well answered in terms of stating it involved large numbers, but the extended answers relating to the roles of the workforce or production runs were not often mentioned.
- (b) Knowledge of using a spreadsheet was excellent and the majority of candidates scored full marks.

### **Question 5**

- (a) Some candidates were able to give a detailed answer to score full marks about freezing. However, answers were often a repeat of the question and are not credited.
- (b) The understanding of the question about materials was not fully realised by some candidates and the ‘use’ of the packaging was frequently given.
- (c) ‘150g e’ - most candidates could identify this as the weight of the product. Few candidates were able to extend the answer and had little knowledge of the ‘e’ being the average weight. Some candidates did know that the number did not include the weight of the packaging.

**‘wash before use’** - few candidates could interpret this instruction and often repeated the information. More competent answers identified removal of sources of bacteria from the food.

**‘use by July 11<sup>th</sup>’** - this was often confused with the ‘best before date’ and ‘sell by date’. Very few candidates could identify that the food product must be consumed before this date as it could lead to food poisoning.

Few candidates could state that each of these above points is a requirement of the law.

### ***Question 6***

- (a) Almost all candidates scored full marks, giving a clear explanation of the word ‘organic’.
- (b) A good range of answers were given, often with extended information and most candidates scored full marks.

## Coursework

### Introduction

Evidence in both the coursework component and the written paper demonstrated that centres had addressed the specification content well, had generally taken on board the advice and guidance given at Autumn term teachers' meetings and had used the Notes and Guidance booklets to support teaching and learning.

### General Comments

Overall centres were more accurate in the assessment of projects. However, although marking and assessment was accurate there was significant evidence of low standards and expectations of candidates in some centres. This was often linked to a difference in standards between designing and making. Often candidates had not been taught how to address making and in particular how to develop a product even though the evidence for their design work was good.

There were fewer mistakes in the use of the matrix. Centre marks sheets were often not sent to moderators on time and in some cases coursework samples were very late in being despatched from centres to the moderator therefore holding up the moderation process. Some very good examples of Candidate Record Forms (CRFs) were seen and the improved annotation enabled moderators to understand why and how assessments had been made. The 'making box' on the CRF was used well this year and immediately gave the moderator an indication of the type and range of making done by the candidates.

Where the CRF was less detailed moderators really had to search for evidence of making in folders. Making in many centres still continues to be over assessed. There was more evidence of better internal standardisation.

### *Positive Aspects*

- The quality of work continues to develop
- Some interesting and innovative design briefs were seen which enable candidates to develop some interesting food products
- Some good concise folders were seen
- There was evidence of well-planned and designed pages where space was used effectively
- Overall candidates are beginning to show their thought process
- Sketching and drawing of design ideas continues to develop and some excellent work was seen
- Where annotation of design ideas is done well this provides very good evidence of the candidate's thought process
- Industrial practice continues to be a strength in many centres
- Excellent production plans were seen from some centres
- Specifications are well understood and well presented generally
- ICT continues to be a strength and there was more evidence of the use of ICT for modelling e.g. communication, dietary analysis and costing
- The use of writing frames and scaffolds has increased which enabled candidates to improve access to grades by reducing their fear of writing on a blank page
- There was more evidence of ongoing evaluation rather than one final evaluation
- Where candidates had been taught well the formulaic approach and the use of scaffolds did not affect independent thinking



- Where development was understood by the teacher and had been taught well candidates were producing some very imaginative ideas and products
- Photographic evidence was very useful and should continue to be encouraged
- Some very high quality work was seen from more able candidates. Teachers and candidates need to be congratulated on the standard of work produced and the effort that has been given to the work. It was also clear that many candidates had enjoyed the challenge of the design brief.

### ***Additional Comments and Areas for Development***

- Where design briefs are not selected appropriately candidates have difficulty accessing and interpreting what is required and motivation quickly reduces
- Too much research results in candidates being unable to use the information to inform design criteria and specifications. It also reduces time for them to address other aspects of the design process
- Design ideas which are represented as recipes show little or no evidence of the candidates thought process
- Lack of evaluation against the specification often happens
- Analysis/evaluation is often the ‘missing link’ in the design process
- Nutritional analysis is carried out by most candidates at some point in the process, but in the majority of cases is not used to inform development
- Copying from books still occurs too often and particularly as a ‘bolt on’ at the end of the project in relation to industrial practice and systems and control
- Where candidates try to develop all design ideas this results in a very simple superficial understanding of development
- Some centres fail to grasp the meaning of development
- Stand alone dishes with very simple modifications are incorrectly given high marks
- In some centres there is a significant lack in the amount and type of making and development
- Teacher evidence of making on the CRF does not always match the candidate’s folder evidence
- Personal comments on the CRF are not helpful or appropriate e.g. ‘good cook’, ‘hardworking pupil’, ‘very organised’
- There is insufficient use of ‘small quantities’ within development
- Too much use of standard components at all stages of making reduces the range of skills and competencies of the candidates. Standard components should be used at the manufacturing stage
- Simple making skills are often over rewarded
- Sensory testing is still a weak area. Methods and results of sensory testing are not evident and evaluation is weak
- Often HACCP is generic and not specific to the final product.

### ***Recommendations***

- Candidates need to understand the design brief and what is expected of them
- Research may occur at different points in the process therefore candidates should be discouraged from ‘front loading’ all the research at the beginning of the project. Research is only of use if the candidate uses the information to inform the specification and the design ideas
- Candidates should ask ‘why?’ for each step in their thinking in order to stimulate their response on paper
- Teachers need to have a clear understanding of the meaning of ‘development’ themselves
- Candidates should only produce a production plan for their final product not a time plan for each making activity

- The amount of time spent on making should reflect the weighting of this part of the coursework
- Candidates need to carry out a range of making activities
- Product analysis must be relevant to the brief and the chosen product development
- HACCP and Quality Control procedures are only required for the final product in order to reduce the size of the design folder
- Evaluation should take place throughout and there is no need to produce a full page of evaluation at the very end of the folder. A simple sentence or paragraph would be sufficient
- Teachers should keep ongoing records about candidates' work
- Candidates should be given feedback throughout the coursework in order to improve what they are doing and how they are doing it
- There should be **no** 'making at home' unless it is **one** simple repeat of a previously made outcome at school
- Designing should inform making
- Use of photos is a good source of evidence if appropriately annotated
- A list of making must be provided on the CRF
- A grade should be given for each assessment criteria for both Designing and Making as well as the overall refined grade for each
- Teachers need to refer to Quality Assurance and Quality Control on the CRF as this is one of the criteria for each grade of the making assessment criteria
- Candidates, particularly more able ones, need to refer to social, moral and environmental issues
- Encourage candidates to select one of their design ideas to develop rather than developing each idea. This makes development easier to track, evaluation to be more focused and manufacturing more specific. It will also reduce the time taken to produce the folder and the quantity of material in the design folder.

# Mark Ranges and Award of Grades

## Mark Ranges and Award of Grades

### Full Course

#### *Foundation tier*

Component	Maximum Mark (Raw)	Maximum Mark (Scaled)	Mean Mark (Scaled)	Standard Deviation (Scaled)
3542/F	125	140	60.6	18.9
3542/C	95	210	118.4	36.8
Foundation tier overall 3542	--	350	179.0	48.4

		Max. mark	C	D	E	F	G
3542/F boundary mark	raw	125	72	60	48	36	24
	scaled	140	81	67	54	40	27
3542/C boundary mark	raw	95	60	47	35	23	11
	scaled	210	133	104	77	51	24
Foundation tier scaled boundary mark		350	208	169	130	91	52

*Higher tier*

Component	Maximum Mark (Raw)	Maximum Mark (Scaled)	Mean Mark (Scaled)	Standard Deviation (Scaled)
3542/H	125	140	96.8	16.6
3542/C	95	210	177.2	25.8
Higher tier overall 3542	--	350	274.0	36.5

		Max. mark	A*	A	B	C	D	allowed E
3542/H boundary mark	raw	125	108	99	90	81	65	-
	scaled	140	121	111	101	91	73	-
3542/C boundary mark	raw	95	95	83	71	60	47	-
	scaled	210	210	183	157	133	104	-
Higher tier scaled boundary mark		350	325	291	257	223	177	154

Although component grade boundaries are provided, these are advisory. Candidates' final grades depend on their total marks for the subject. In particular, A\* is determined on candidates' total marks, not on each component, and candidates do not have to obtain 95 marks on the coursework component in order to gain grade A\* on the subject as a whole.

### Provisional statistics for the award (39611 candidates)

	C	D	E	F	G
Cumulative %	30.1	59.5	79.7	91.7	97.6

*Higher tier (30278 candidates)*

	A*	A	B	C	D	allowed E
Cumulative %	5.8	36.4	70.4	91.6	98.6	99.3

*Overall (69989 candidates)*

	A*	A	B	C	D	E	F	G
Cumulative %	2.5	15.8	30.4	56.7	76.5	88.2	95.0	98.4

## Short Course

### Foundation tier

Component	Maximum Mark (Raw)	Maximum Mark (Scaled)	Mean Mark (Scaled)	Standard Deviation (Scaled)
3552/F	100	120	64.8	16.9
3552/C	95	180	99.7	30.6
Foundation tier overall 3552	--	300	164.5	40.4

		Max. mark	C	D	E	F	G
3552/F boundary mark	raw	100	70	58	47	36	25
	scaled	120	84	70	56	43	30
3552/C boundary mark	raw	95	60	48	36	24	12
	scaled	180	114	91	68	45	23
Foundation tier scaled boundary mark		300	191	157	123	89	55

### Higher tier

Component	Maximum Mark (Raw)	Maximum Mark (Scaled)	Mean Mark (Scaled)	Standard Deviation (Scaled)
3552/H	100	120	85.8	14.8
3552/C	95	180	151.1	22.4
Higher tier overall 3552	--	300	236.9	30.8

		Max. mark	A*	A	B	C	D	allowed E
3552/H boundary mark	raw	100	93	84	75	67	57	-
	scaled	120	112	101	90	80	68	-
3552/C boundary mark	raw	95	95	84	72	60	48	-
	scaled	180	180	159	136	114	91	-
Higher tier scaled boundary mark		300	287	256	225	194	159	141

Although component grade boundaries are provided, these are advisory. Candidates' final grades depend on their total marks for the subject. In particular, A\* is determined on candidates' total marks, not on each component, and candidates do not have to obtain 95 marks on the coursework component in order to gain grade A\* on the subject as a whole.

## Provisional statistics for the award

### *Foundation tier (1424 candidates)*

	C	D	E	F	G
Cumulative %	26.1	59.2	78.1	90.1	96.6

### *Higher tier (1216 candidates)*

	A*	A	B	C	D	allowed E
Cumulative %	2.0	30.7	67.1	91.4	98.7	99.3

### *Overall (2640 candidates)*

	A*	A	B	C	D	E	F	G
Cumulative %	0.9	14.1	30.9	56.2	77.4	87.8	94.3	97.8

## Definitions

**Boundary Mark:** the minimum (scaled) mark required by a candidate to qualify for a given grade. Although component grade boundaries are provided, these are advisory. Candidates' final grades depend only on their total marks for the subject.

**Mean Mark:** is the sum of all candidates' marks divided by the number of candidates. In order to compare mean marks for different components, the mean mark (scaled) should be expressed as a percentage of the maximum mark (scaled).

**Standard Deviation:** a measure of the spread of candidates' marks. In most components, approximately two-thirds of all candidates lie in a range of plus or minus one standard deviation from the mean, and approximately 95% of all candidates lie in a range of plus or minus two standard deviations from the mean. In order to compare the standard deviations for different components, the standard deviation (scaled) should be expressed as a percentage of the maximum mark (scaled).