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ASSESSMENT and QUALIFICATIONS ALLIANCE

General Certificate of Secondary Education

Design and Technology
Textiles Technology (Full Course) 3547
Textiles Technology (Short Course) 3557
2008

Material accompanying this Specification

- Specimen Papers and Mark Schemes
- Reports on the Examination
- Teachers' Guide

SPECIFICATION

This specification will be published annually on the AQA Website (www.aqa.org.uk). If there are any changes to the specification centres will be notified in print as well as on the Website. The version on the Website is the definitive version of the specification.

| Vertical black lines indicate a significant change or addition to the specification published for 2007.

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Background Information

1 The Revised General Certificate of Secondary Education

Following a review of the National Curriculum requirements, and the establishment of the National Qualifications Framework, all the unitary awarding bodies have revised their GCSE syllabuses for examination in 2003 onwards.

1.1 Changes at GCSE

Key Skills

All GCSE specifications must identify, as appropriate, opportunities for generating evidence on which candidates may be assessed in the "main" Key Skills of communication, application of number and information technology at the appropriate level(s). Also, where appropriate, they must identify opportunities for developing and generating evidence for addressing the "wider" Key Skills of working with others, improving own learning and performance and problem solving. Design and Technology is uniquely placed to provide opportunities for all six Key Skills.

Spiritual, moral, ethical, social, cultural, environmental, health and safety and European Issues

All specifications must identify ways in which the study of the subject can contribute to an awareness and understanding of these issues.

ICT

The National Curriculum requires that students should be given opportunities to apply and develop their ICT capacity through the use of ICT tools to support their learning. In each specification candidates will be required to make effective use of ICT in ways appropriate to the needs of the subject.

Tiering

In most subjects the scheme of assessment must include question papers, targeted at two tiers of grades, ie A* - D and C - G.

A safety net of an allowed Grade E will be provided for candidates entered for the higher tier who just fail to achieve Grade D. The questions will still be targeted at A* - D.

Citizenship

From 2002, students in England will be required to study Citizenship as a National Curriculum subject. Each GCSE specification must signpost, where appropriate, opportunities for developing citizenship knowledge, skills and understanding.

1.2 Changes to the Design and Technology criteria

The main changes to the Design and Technology criteria are given below.

a. The Aims have been simplified to reflect the National Curriculum requirements, but it should be noted that they now include a consideration of the influences of past and present design and technology on society.

b. The Assessment Objectives have been expanded.

- AO1 consists of materials, components, processes, techniques and industrial practices.
- AO2 combines designing and making into one objective.
- AO3 evaluation of processes and products includes examining the wider effects of design and technology on society

c. Greater emphasis has been placed on ICT, particularly CAD/CAM.

1.3 Changes to the Design and Technology (Textiles Technology) specification

The Design and Technology (Textiles Technology) specification has been revised and updated to take account of the latest developments in the teaching of textiles.

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Specification at a Glance

Design and Technology (Textiles Technology)

This specification is one of a suite of seven in Design and Technology offered by AQA. There are two tiers of assessment: Foundation (G-C) and Higher (D-A*).

GCSE (Full Course) 3547	
Written Paper	40% of total marks
Foundation Tier	2 hours
Higher Tier	2 hours

In design questions, candidates may respond either through a fashion or a furnishing approach.

A Preparation Sheet will be issued to centres at the beginning of March. This Sheet is common to the Full and Short Courses and to the foundation and higher tier papers. It will give advance notice of the design context for design questions.

All questions are compulsory.

Foundation Tier
3547F
Higher Tier
3547H

Coursework Project	60% of total marks not to exceed 40 hours

Coursework will be internally assessed and externally moderated.

Coursework consists of a project which addresses all the assessment objectives in an integrated way. The evidence required for the project consists of a 3-dimensional product and a concise design folder and/or the appropriate ICT evidence.

GCSE (Short Course) 3557	
Written Paper	40% of total marks
Foundation Tier	1½ hours
Higher Tier	1½ hours

In design questions, candidates may respond either through a fashion or a furnishing approach.

A Preparation Sheet will be issued to centres at the beginning of March. This Sheet is common to the foundation and the higher tier papers and will give advance notice of the design context for design questions.

All questions are compulsory.

Foundation Tier
3557F
Higher Tier
3557H

Coursework Project	60% of total marks not to exceed 20 hours

Coursework will be internally assessed and externally moderated.

Coursework consists of a project which addresses all the assessment objectives in an integrated way. The evidence required for the project consists of a 3-dimensional product and a concise design folder and/or the appropriate ICT evidence.

3 Availability of Assessment Units and Entry Details

3.1 Availability of Assessment Units

Examinations based on this Specification are available in the June examination series only.

3.2 Entry Codes

Normal entry requirements apply, but the following information should be noted.

The **Subject Code** for entry to the GCSE award is 3547.

The **Subject Code** for entry to the GCSE (Short Course) award is 3557.

3.3 Classification Codes

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

Centres should be aware that candidates who enter for more than one 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.

The classification code for this specification is 9050.

3.4 Private Candidates

This specification is not available for private candidates.

3.5 Access Arrangements and Special Consideration

AQA pays due regard to the provisions of the Disability Discrimination Act 1995 in its administration of this specification.

Arrangements may be made to enable candidates with disabilities or other difficulties to access the assessment. An example of an access arrangement is the production of a Braille paper for a candidate with a visual impairment. Special consideration may be requested for candidates whose work has been affected by illness or other exceptional circumstances.

Further details can be found in the Joint Council for Qualifications (JCQ) document:
Access Arrangements and Special Consideration
Regulations and Guidance Relating to Candidates who are Eligible for Adjustments in Examination
GCE, AEA, VCE, GCSE, GNVQ, Entry Level & Key Skills
This document can be viewed via the AQA web site (www.aqa.org.uk)

Applications for access arrangements and special consideration should be submitted to AQA by the Examinations Officer at the centre.

3.6 Language of Examinations

All assessment will be through the medium of English. Assessment materials will not be provided in Welsh or Gaeilge.

Scheme of Assessment

4 Introduction

4.1 National Criteria

This GCSE Design and Technology (Textiles Technology) specification complies with the following:

- The GCSE Subject Criteria for Design and Technology;
- The GCSE, GCSE in vocational subjects, GCE, VCE, GNVQ and AEA Code of Practice 2006/7
- The GCSE Qualification Specific Criteria;
- The Arrangements for the Statutory Regulation of External Qualifications in England, Wales and Northern Ireland: Common Criteria.
- The National Curriculum Order for Design and Technology.

4.2 Rationale

This specification will allow candidates to specialise in designing and making activities delivered through textiles. Candidates are given the opportunity to follow either a fashion and accessories route or a furnishing route and will learn about and apply a range of manufacturing processes, techniques and technologies appropriate to the design and make process.

4.3 Prior level of attainment and recommended prior learning

The specification builds on the Key Stage 3 programme of study for Design and Technology. It is expected that candidates will have followed this programme before commencing work on this specification.

It will be beneficial for candidates to have achieved at least Level 1 in the Key Skills of *Communication*, *Application of Number* and *Information Technology* to cope with the demands of this specification.

4.4 Progression

This qualification is a recognised part of the National Qualifications framework. As such, GCSE provides progression from Key Stage 3 through Key Stage 4 to post-16 studies. It lays an appropriate foundation for further study of Design and Technology.

5 Aims

A course based on this specification should encourage candidates to

a. demonstrate fully their design and technology capability, which requires them to combine skills with knowledge and understanding in order to design and make quality products in quantity;

b. acquire and apply knowledge, skills and understanding through:

- analysing and evaluating products and processes;
- engaging in focused tasks to develop and demonstrate techniques;
- engaging in strategies for developing ideas, planning and producing products;
- considering how past and present design and technology, relevant to a designing and making context, affects society;
- recognising the moral, cultural and environmental issues inherent in design and technology.

6 Assessment Objectives

6.1 Assessment Objectives

Candidates should be able to demonstrate their design and technology capability through acquiring and applying knowledge, skills and understanding:

a. of materials, components, processes, techniques and industrial practice;

b. when designing and making quality products in quantity;

c. when evaluating processes and products and examining the wider effects of design and technology on society.

6.2 Quality of Written Communication

Where candidates are required to produce extended written material in English, they will be assessed on the quality of written communication. Candidates will be required to:

- present relevant information in a form that suits its purposes;
- ensure that text is legible and that spelling, punctuation and grammar are accurate, so that meaning is clear.

Quality of written communication will be assessed in candidates' coursework design folders.

7 Scheme of Assessment

7.1 Full Course Assessment Units

The Scheme of Assessment comprises two components.

Written Paper		
40% of the marks		
Foundation Tier	2 hours	125 marks
Higher Tier	2 hours	125 marks

Questions will test the application of knowledge and understanding of textiles materials, components, processes and techniques. The evaluation of textiles products and commercial practices will also be tested. In design questions, candidates will have the opportunity to respond through either a fashion or a furnishing approach.

A Preparation Sheet will be issued to candidates at the beginning of March in the year of the examination. This sheet is common to the foundation and higher tier papers and will give advance notice of the design context for the design questions on the written papers. The same sheet will be issued for both Full and Short Courses.

Coursework Project	40 hours
60% of the marks	95 marks

The coursework project will be internally assessed and externally moderated. Full details on coursework are given in Sections 14-20 below.

The project should address all three assessment objectives in an integrated way. Candidates are required to submit a concise design folder and/or the appropriate ICT evidence and a 3-dimensional outcome.

Throughout the project candidates should address the industrial and commercial practices, and the moral, social, cultural and environmental issues, arising from their work.

Experience has shown that candidates are often highly motivated where they devise their own project outlines. This is, therefore, to be encouraged and guidelines for the preparation of outlines are given in para 15.1. Examples of suitable project outlines are given in 15.2 which can also provide starting points for candidates.

Centres should ensure that candidates embark on projects that can satisfy the coursework requirements and be completed in 40 hours.

The assessment criteria in Section 16 should be used as a guide for teachers and candidates to the type of work and the standards required.

7.2 Short Course Assessment Units

The Scheme of Assessment comprises two components.

Written Paper		
40% of the marks		
Foundation Tier	1½ hours	100 marks
Higher Tier	1½ hours	100 marks

Questions will test the application of knowledge and understanding of textiles materials, components, processes and techniques. The evaluation of textiles products and commercial practices will also be tested. In design questions, candidates will have the opportunity to respond through either a fashion or a furnishing approach.

A Preparation Sheet will be issued to candidates at the beginning of March in the year of the examination. This sheet is common to the foundation and higher tier papers and will give advance notice of the design context for the design questions on the written papers. The same sheet will be issued for both the Full and Short Courses.

Coursework Project	20 hours
60% of the marks	95 marks

The coursework project will be internally assessed and externally moderated. Full details on coursework are given in Sections 14-20 below.
For short course projects, it is essential that an appropriate outline/brief is selected which will allow candidates to satisfy all the requirements within the 20 hours permitted. See paragraph 14.3 for further guidance.

The project should address all three assessment objectives in an integrated way. Candidates are required to submit a concise design folder and/or the appropriate ICT evidence and a 3-dimensional outcome.

Throughout the project candidates should address the industrial and commercial practices, and the moral, social, cultural and environmental issues, arising from their work.

Experience has shown that candidates are more highly motivated where they devise their own project outlines. This is, therefore, to be encouraged and guidelines for the preparation of outlines are given in para 15.1. Examples of suitable project outlines are given in 15.2 which can also provide starting points for candidates.

The assessment criteria in Section 16 should be used as a guide for teachers and candidates to the type of work and the standards required.

7.3 Weighting of Assessment Objectives

The approximate relationship between the relative percentage weighting of the Assessment Objectives (AOs) and the overall Scheme of Assessment is shown in the following table:

Assessment Objectives	Component Weightings (%)		Overall Weighting of AOs (%)
	Coursework	Written Paper	
1 Materials and Components	10	10	20
2 Designing and Making	40	20	60
3 Evaluation and Social Issues	10	10	20
Overall Weighting of Units (%)	**60**	**40**	**100**

Candidates marks for each assessment unit are scaled to achieve the correct weightings.

Subject Content

8 Summary of Subject Content

9 Designing and Making Skills

Section 9 specifies the general designing and making skills required for both the full and short courses and the knowledge and understanding candidates should acquire.

10 Full Course

Section 10 specifies the Full Course content.

11 Short Course

Section 11 specifies the Short Course content.

Each course is presented under the following three broad areas of study:

Materials and Components;
Design and Market Influences;
Processes and Manufacture.

9 Designing and Making Skills

Design and Technology is a practical subject area which requires the application of knowledge and understanding when developing ideas, planning, producing products and evaluating them. The distinction between Designing and Making is a convenient one to make, but in practice the two often merge. For example, research can involve not only investigating printed matter and people's opinions, but also investigating proportions, sizes, finishes, decorative techniques, patterns and materials through practical work.

The skills which follow are common to both the Full and the Short Courses and underpin all learning and cover the programme of study for KS4 Design and Technology.

9.1 Designing Skills

Candidates should be taught:

to understand the basic design principles of line, form and colour and their application in designing;

to develop and use design briefs, detailed specifications and criteria in relation to product development;

to consider the conflicting demands that moral, cultural, economic, environmental, historical and social issues can make in the planning and in the designing of products;

to consider their own health and safety and that of makers, manufacturers, individual users and society at large;

to consider an increasing range of users of products and different societies in relation to their differing needs and values;

to anticipate and design for product maintenance;

to design for manufacturing in quantity;

to plan for quality control and quality assurance when designing products and to be aware of the difference;

to generate design proposals against stated design criteria, and to modify their proposals in the light of on-going analysis, evaluation and product development;

to use graphic techniques and ICT, including CAD to generate, develop, model and communicate design proposals;

to match materials and components with tools, equipment and processes, taking account of critical dimensions and tolerances when deciding how to manufacture the product;

to produce and use detailed working schedules that will achieve the desired objectives in the time available, setting realistic deadlines for the various stages of manufacture, identifying critical points in the making process and providing alternatives to possible problems;

to devise and apply test procedures to check the quality of their work at critical points during development, and to indicate ways of modifying and improving it when necessary;

to be flexible and adaptable in their designing, in order to respond to problems, changing circumstances and new opportunities;

to ensure that the quality of their design solution will be suitable for intended clients and consumers;

to understand the difference between quality of design and quality of manufacture and use essential criteria to evaluate the quality of products they have made and products which have been made commercially.

9.2 Making Skills

Candidates should be taught:

to match materials and components with tools, equipment and processes to produce quality products;

to use tools and equipment safely, accurately and efficiently to achieve an appropriate fit, finish and reliable functioning in products that match their specifications;

to use a range of industrial applications when working with familiar materials and processes;

to manufacture products singly and in quantity, including the practical application of quality control and quality assurance techniques;

to use computer-aided manufacture (CAM) in single item production and in batch or volume production;

to simulate production and assembly lines including the use of ICT;

to be adaptable in their working practices, in order to respond to changing circumstances and new opportunities;

to ensure, through testing, modification and evaluation, that the quality of their products is suitable for intended users and devise modifications where necessary that would improve performance.

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Full Course
Materials and Components

Candidates should build upon the National Curriculum Key Stage 3 Programmes of Study to develop a working knowledge of textiles materials and components appropriate to modelling, prototyping and manufacturing.

		Candidates should:	**Possible learning experiences**
10.1	Fibres and Fabrics		
	Properties and characteristics	have a working knowledge, including their origin, basic composition, physical and aesthetic characteristics, of three natural (including cotton) and four synthetic (including polyester and micro) fibres;	Research natural and synthetic fabrics used in fashions or furnishing; note their advantages/disadvantages. Create a pupils' own reference database and share it with students in other schools.
	Combination, construction and uses of textiles fibres and fabrics	understand the need to combine fibres, with reference to polyester/cotton and one other fibre blend;	Investigate the advantages of combining fibres in fabrics used for fashion/furnishing.
		investigate two examples each of woven and knitted fabrics and one bonded or felted fabric and see, through disassembly, how they are constructed; know that modern microfibres can be used to construct woven, knitted, laminated and micro-encapsulated 'smart' fabrics;	Disassemble samples of fabrics to determine their construction method.
		be aware of technological advances in textiles materials and their use in a wide range of industries;	Research the properties and uses of modern fabrics such as techno-fleece, washable wools and brand-name fabrics such as Tactel, Tencel and Lycra.

	Candidates should:	Possible learning experiences
	assess and evaluate types of fibres used in fabrics for particular end products; identify the criteria which influence choice of fabrics; be aware that textiles product manufacturers purchase fabric according to specifications; understand that techniques and processes used to manufacture textiles products may vary according to the characteristics of the fabric being used;	Use the Internet to find out information about microfibres and other advancements in the development of 'smart' fabrics; find as much information as possible about very 'smart' fabrics; design a range of futuristic textile products. Make a wall chart with a list of the fibres used in textiles products; use the Internet to set up a database or compile a book of annotated fabric swatches to use for choosing suitable fabrics for clothing / accessories / furnishings in a wide range of industries such as medicine, transport, horticulture; research textiles manufacturers to find out what type of fabric specifications and fabric tests are used for the products being manufactured.
Product maintenance, suitability and fitness for purpose	know and design for the maintenance needs of their textiles product and implement current textiles labelling and labelling legislation;	Devise care and maintenance labels for use on own products.
	understand the factors, i.e. wearability, warmth, comfort, absorbency, durability, launderability, safety, flammability, stain resistance, visual impact, aesthetic qualities, which constitute suitability/ fitness for purpose; know that textiles materials are used for a wide range of industrial purposes, including transport, civil engineering and medicine;	Make group wall charts showing examples of the types of textiles in everyday use and those used in a wide range of industries such as transport, e.g. seat belts, parachutes, airbags; civil engineering, e.g. embankment structures, sound insulation; heavy industry, e.g. protective clothing, conveyor belts.

		Candidates should:	Possible learning experiences
10.2	Finishing Processes		
	Fabric combinations	describe how two different fabric combinations can be used to improve handling, appearance and performance, with due regard to safety factors;	Investigate the reasons for the layering or combination of different fabrics in clothing/furnishing, e.g. interfacing (for strength), quilting (for added warmth), reversible fabrics (for dual purpose), etc.
	Dyeing and printing	describe one basic commercial method and one ethnic method of dyeing and printing fabric;	Look at techniques such as roller printing/screen printing/tie-dyeing/batik, etc.
	Decoration and enhancement	select and know how to use a variety of surface decorative techniques in order to improve the aesthetic qualities of textiles, fabrics and products;	Look at a variety of decorative techniques, e.g. appliqué, beading, collage, machine embroidery, with a view to designing and making a decorative panel for the front of a garment or accessory/a decorative wall-hanging. Design fabric, using a software draw/ paint package, print on to transfer paper and produce a length of fabric.
	Finishes	have a working knowledge of three finishes applied to fabrics in order to improve their performance; evaluate the effects of these fabric finishes paying attention to use, comfort, safety, maintenance, manufacturing costs and retail price;	Be familiar with different types of finishing techniques, e.g. heat setting, crease resistance, soil resistance, flame retardance, brushing, and list their advantages on a database/wall chart.
		have knowledge of one modern smart finish to fabrics;	Research uses of modern smart finishes, such as antibacterial / light sensitive, which deodorise / change colour.
10.3	Components		
	Pre-manufactured components	use and evaluate the suitability and safety of pre-manufactured components in design and make tasks;	Produce a chart to help choose threads, edgings, fastenings, Velcro, mounted press fasteners, pre-manufactured collars and cuffs, shoulder pads, braids, electronic noise and movement features, and use a selection of these in design and make tasks.

	Candidates should:	Possible learning experiences
CAD/CAM in component production	understand the role of CAD / CAM in producing component parts and assuring aesthetic quality: use them in design and make tasks;	Use CAM on badges, motifs, logos, labels etc; use CAD/CAM to produce logos for a manufacturer of jeans/for co-ordinated table linen for a hotel chain; use a computerised sewing machine to produce simple embroidered designs for fabrics.

Design and Market Influences

Candidates should be taught how to analyse products and processes. They should consider how design and technology affects the manufacturer, user and environment, and the importance of health and safety issues.

		Candidates should:	Possible learning experiences
10.4	Product analysis		
	Analysis of designs and products	carry out product analysis through analysing existing textiles designs and products using design principles (line, form and colour); apply these design principles to own designs; present design ideas and production drawings showing the use of these basic principles for specific age groups/spaces and environments;	Investigate a variety of past and present fashion/furnishing products and analyse/record the effects of line, pattern, colour, texture in relation to their functions; produce a collection of fashion design ideas and analyse them, using a variety of techniques, e.g. story board, notebook, photographs, sketches, colour boards, swatches. Use CAD software to "texture map" a garment design over a digital image of a person.
	Image, lifestyle, co-ordination, ambience and harmony reflected in past and present textiles designs	assess and implement these factors when creating and producing fashion garments and textiles furnishings to achieve specific functions and effects; analyse aesthetic requirements of styles and trends in relation to modern life;	Look at the work of past and present designers; collect photographs, cuttings etc to use as starting point for the creation of new fashion design/look; investigate the furnishings of a variety of environments at different periods in history and select one period to use as an inspiration for textiles furnishings

	Candidates should:	Possible learning experiences
		in a modern environment; select textile designs for special effects and moods, e.g. light shades, throw-over rugs and cloths, tapestries, carpets, to plan a harmonised spatial environment.
Analysis of own product compared with alternative products on market	analyse the function of own outcomes through disassembly, comparison with other products on the market and evaluation;	Disassemble commercial/own designs to evaluate them in the course of research, analysis and evaluation of own product. Use CAD software to create different colourways on designs and evaluate their effects.

10.5 Evaluation Techniques

Checking of design proposals against design criteria	understand the criteria that influence the design of textile products; use product analysis techniques to help make critical judgements about the design and manufacture of existing products; use this information to review and modify their own designs;	List the design criteria for an everyday textiles product and devise simple tests to evaluate its performance; write a group product analysis report on own product or that of a classmate.
Quality assurance through testing and evaluation of quality and fitness for purpose	devise simple tests to check the effectiveness of designs and evaluate against the specification criteria; use ongoing evaluation to make judgements and suggest improvements during designing and manufacture; evaluate the effectiveness of various techniques during manufacture; consider other peoples' views when refining product designs; ensure that own product(s) are of a suitable quality for intended users;	Make paper models, patterns, mock-ups and prototypes as work progresses; put together a notebook of decorative techniques and evaluate their aesthetic appeal. Carry out a survey to establish public preferences of a range of products. Evaluate own products against fitness for purpose criteria.

		Candidates should:	Possible learning experiences
	Evaluation of quality of own product compared with market alternatives	investigate the quality of textiles products through disassembly and evaluate their performance against design and manufacture of own product;	Research past and present commercial products to evaluate against own product.
10.6	Social, Cultural, Moral and Environment Issues		
	Social and cultural influences on the consumer market	recognise the effects of social and cultural influences on textiles product design;	Consider the role of the designer and the impact his/her designs may have on society.
		study fashion and furnishing trends and assess the reasons for their popularity within particular age/cultural groups;	Consider the effects of gender and ethnicity on fashion / furnishings design, e.g. influences of peer group pressures, group identity, street fashions versus couture garments, ethnic and cultural influences/ethnic architectural influences on textiles fashions / furnishings.
	Consumer choice	identify the factors involved in consumer choice; carry out market research to establish consumer preferences of target group(s) and ensure that own designs meet these requirements;	Look at professional market research questionnaires. Write questionnaire to establish consumer preferences and record these on spreadsheet / database. Ensure that own designs meet the requirements of the target market.
	Product maintenance, consumer rights legislation and codes of practice	take legislation concerning consumer rights and safety codes of practice into account when designing own textiles products; use current textiles labelling on own products in accordance with legislation;	Collect examples of care and maintenance labels on textiles products for garments / furnishings. Assess the implications of applying flame retardant finish to children's nightwear / a living room suite, in terms of the manufacturer and the customer.
	Moral and environmental issues	understand the moral and environmental issues associated with textiles production, the harmful effects of industrial pollution and the crucial need to treat and dispose of waste materials correctly; appreciate the importance of conservation and protection of natural resources and recycling;	Research 'Green Technology' and brainstorm ways to lessen textiles pollution. Investigate the production of fabrics from recycled materials. Research the effects of thoughtless exploitation of natural resources on the landscape.

		Candidates should:	Possible learning experiences
10.7	Health and Safety Issues		
	Identification and reduction of hazards and risks when designing and manufacturing textiles products	understand that safety for the product user is essential; assess hazard and risk factors in textiles product manufacturing, colouring fabrics, choice and use of fabrics, components, tools, equipment and work with these safely and effectively;	Review safety practices in the workroom, e.g. safe use of irons, scissors, sewing machines, over locker machines; list the "do's" and "don'ts" for all equipment in textiles workroom. Collect examples of health and safety labels on garments, accessories and furnishings Check that components can be used safely in specific contexts e.g. position/type of fastener for close fitting garments, use of small beads on toddlers' garments or toys etc.
	Safety in working environment	recognise that safety of the workforce is essential; take responsibility to ensure that hazards are minimised and the working environment is safe to use;	Review positioning of equipment and tools in workplace to ensure that there are no hidden hazards; make posters and warning notices for the workroom concerning hazard avoidance and safe working practices.

Processes and Manufacture

Candidates should be aware of, and use as appropriate, manufacturing processes and techniques including CAD and CAM. They should have an industrial and commercial awareness and know about the processes involved in manufacturing for batch and mass production.

		Candidates should:	Possible learning experiences
10.8	Techniques and Processes		
	Selection and usage of appropriate textiles tools and equipment, including CAD and CAM	use a range of tools, machinery and equipment currently available, including an over locker, accurately and safely to produce quality products;	Experiment with a variety of tools and techniques, including CAD / CAM, on a range of different fabrics in order to match method and fabric to intended outcome.

		Candidates should:	Possible learning experiences
	Range of processes used for one-offs, batch and mass production	understand how textiles items are produced for various markets in society and the effects of the type of production system used, including mass, batch, line and one-off production;	Research the various production systems, e.g. Ready-to-Wear, Made-to-Measure, Haute Couture, and Designer label for fashion garments/commissioned designs, ready-made furnishings, self assembly packs for furnishings; watch video or visit workplace to observe CAM in action and evaluate its usefulness to the textiles industry.
	Selection of appropriate process for own product	select and use the most appropriate technique(s), process(es) and equipment to make own product(s);	Choose the most suitable manufacturing technique for tie-dyeing scarves to sell at a school fête/for mass-producing table-wear for a chain store. Use techniques to transfer CAD printed designs on to fabric; Use CAM facilities as appropriate for own products.
10.9	Systems and Control Procedures		
	Design, use and connection of systems and sub-systems	understand the critical factors that influence the development of a product; design and set up a system and interconnect with sub-systems to make a fashion / furnishing product, ensuring efficient use of time and energy and cost effectiveness;	Plan and produce flow charts to show logical and efficient sequences of work. Produce detailed working diagrams using CAD to ensure efficient use of time and energy when manufacturing a garment/use CAD to produce an efficient fabric layout for a set of furnishings.
	Incorporation of feedback and checking procedures	understand and implement the concept of input-process-output and incorporate feedback loops to analyse whether own system is working effectively and safely as the product is made;	Suggest different types of feedback loops to incorporate in different systems; compare with systems feedback used in industry.

	Candidates should:	Possible learning experiences
Quality assurance through analysis and modification of system's performance by critical checks and tests	build into the system a series of critical checks to ensure that it works effectively; continually test and evaluate own product at critical stages of manufacture to ensure quality; modify the system if necessary;	Produce prototypes of own designs and test against specification; test, amend and modify prototypes of fashion garment/furnishing product to ensure that it meets the specification; keep control charts with relevant data of each stage in manufacture. Note modifications at each stage in manufacture which give final quality product.

10.10 Information and Communication Technology

Computer technology and communication techniques	use ICT and software packages as appropriate to research, collect, sort and present research information;	Use the Internet. Use databases for textile properties. Present survey data using spreadsheets, charts and graphs.
	use graphic techniques, including CAD, to generate, develop, modify, enhance, model and communicate design proposals and final specifications;	Use CAD software packages when designing and manufacturing to develop/modify a pattern, for sizes and dimensions and to illustrate lay planning. Make use of a digital camera to consider alternative colourways and colour coordination.
Usage of CAD and CAM in industry	recognise the importance and benefits of using CAD/CAM in the production of textiles in a modern industrial world; understand that CAD software can be used to aid planning for manufacture and that CAM can be used in single item and in batch/mass production;	Visit a factory/watch videos to show CAD/CAM in action in the industrial workplace. Use ICT software packages to help in the simulation of textiles production and assembly lines.
Usage of CAD and CAM in the manufacture of own products	select and use modern manufacturing equipment appropriate to specific textiles tasks; use CAM to enhance accuracy and efficiency in the production of components and products;	Make badges, motifs, logos using a computerised sewing machine. Use a computerised knitting machine in order to produce samples.

		Candidates should:	Possible learning experiences
10.11	Industrial Practices		
	Industrial and market awareness	understand that clients, designers, manufacturers and users all have a role in the development of textiles products for industrial manufacture;	Research these roles in the development of garment / item of furnishing. Arrange a class talk and discussion with a textiles designer.
		investigate the creation and development of new designs prior to manufacture through consumer surveys, questionnaires, high street fashion trends etc.;	Devise a survey to determine teenage fashion; produce a flow diagram to show the stages of design and manufacture of a textiles product in the industrial world.
	Industrial systems for batch/ volume production	prepare detailed production plans which reflect industrial practice, including scheduling, job sequencing and processing time, scales and costs of production; use comparison with industrial system(s) to identify inefficiencies in own system and incorporate more efficient methods of batch/volume production;	Research a small textiles business enterprise and observe systems at work; watch a video showing how prototype garments are produced in a day / showing the stages involved in rapid prototyping. Simulate a production line by setting up a small cell to produce fashion accessories/to produce swing labels for furnishing items; observe the efficiency of this system and suggest ways to improve it; watch a video which shows methods of production (including CAD/CAM) used by textiles companies.
	Costs in relation to one-off, batch and mass production of own product	determine costings and market prices while taking into account the constraints of budget and time scale; understand that CAD / CAM can be important in the reduction of manufacturing costs;	Use a spreadsheet to work out the total costs of raw materials, labour, transport, advertising, etc in relation to producing a quality item at low cost.
	Advertising and marketing	understand the importance of advertising textiles products: be aware of different distribution/ wholesale and retail methods, i.e. shops, boutiques, supermarkets and mail order catalogues and the Internet.	Suggest ways of advertising your product. Investigate different ways, including the Internet, of selling textiles products and their target markets.

11

Short Course
Materials and Components

Candidates should build upon the National Curriculum Key Stage 3 Programmes of Study to develop a working knowledge of textiles materials and components appropriate to modelling, prototyping and manufacturing.

		Candidates should:	Possible learning experiences
11.1	Fibres and Fabrics		
	Properties and characteristics	have a working knowledge, including their origin, basic composition and physical properties, of two natural (including cotton) and two synthetic, polyester and micro fibres;	Collect examples of fabrics with these fibres and recognise their appearance and texture; note their advantages / disadvantages. Create a pupils' own reference database and share it with students in other schools.
	Combination, construction and uses of textiles fibres and fabrics	understand the need to combine fibres, with reference to polyester/cotton;	Investigate the blended fabrics and note their advantages/disadvantages.
		disassemble one example each of woven, knitted and bonded fabrics and see how they are constructed;	Make a wallchart listing the types of fabrics used in common textiles products.
		be aware of technological advances in textiles materials and their use in a variety of industries;	Use the Internet to obtain information about smart fibres and fabrics.
	Product maintenance, suitability and fitness for purpose	know and design for the maintenance needs of their textiles products and implement current textiles labelling legislation;	Look at the specific qualities of fabrics, eg aesthetic qualities, wearability, warmth, comfort, absorbency, durability, launder-ability, flammability, stain resistance, and identify their suitability for specific purposes.
		describe the factors which constitute suitability / fitness for purpose and evaluate materials in the context of the health and safety of the consumer;	

		Candidates should:	Possible learning experiences
11.2	Finishing Processes		
	Fabric combinations	describe how one fabric combination can be used to improve handling, appearance and performance, with due regard to safety factors;	Investigate how and why different fabrics are layered and combined for different purposes, eg insulation and strength.
	Dyeing and printing	describe one method of dyeing and printing fabric;	Look at some dying and printing techniques.
	Decoration and enhancement	select and know how to use a variety of surface decorative techniques in order to improve the aesthetic qualities of textiles, fabrics and products;	Research a variety of historical and ethnic decorative techniques and use them to design the front panel of a waistcoat.
	Finishes	have a working knowledge of three finishes applied to fabrics in order to improve their performance; evaluate the effects of these fabric finishes paying attention to use, comfort, safety, maintenance, manufacturing costs and retail price;	Be familiar with different types of finishing techniques, e.g. heat setting, crease resistance, soil resistance, flame retardance, brushing, and list their advantages on a database/wall chart.
		have knowledge of one modern smart finish to fabrics;	Research uses of modern smart finishes, such as antibacterial / light sensitive, which deodorise / change colour.
11.3	Components		
	Pre-manufactured components	use a variety of pre-manufactured components in design and make tasks;	Collect and compare a variety of fastenings, threads and edgings. Select and discuss the use of components in textile design for different age groups.
	CAD/CAM in component production	understand the role of CAD / CAM in producing component parts and relate this to design and make tasks;	Make badges / motifs or logos using a computerised sewing machine.

Design and Market Influences

Candidates should be taught how to analyse products and processes. They should consider how design and technology affects the manufacture, user and environments, and the importance of health and safety issues.

		Candidates should:	**Possible learning experiences**
11.4	Product analysis		
	Analysis of designs and products	analyse existing textiles designs and products using basic principles (line, form and colour); apply these design principles to own designs and products;	Create different effects on fabrics using these principles; critically analyse existing textiles products and their marketability.
	Analysis of own product compared with alternative products on market	investigate the function of own outcome(s) through disassembly, comparison and evaluation;	Disassemble commercial/own designs to evaluate them. Analyse a range of textiles products in order to understand construction techniques and other design features.
11.5	Evaluation Techniques		
	Checking of design proposals against design criteria	understand the criteria that influence the design of textile products; use product analysis techniques to help make critical judgements about the design and manufacture of existing products;	List the design criteria for an everyday textiles product and devise simple tests to evaluate its performance; write a group product analysis report on own product or that of a classmate.
	Quality assurance through testing and evaluation of quality and fitness for purpose	devise simple tests to check the effectiveness of designs and evaluate against the specification criteria; use ongoing evaluation to make judgements and suggest improvements during designing and manufacture;	Make paper models, patterns, mock-ups and prototypes as work progresses.
	Evaluation of quality of own product compared with market alternatives	investigate the quality of textiles products through disassembly and evaluate their performance against design and manufacture of own product;	Research past and present commercial products to evaluate against own product.

		Candidates should:	Possible learning experiences
11.6	Social, Cultural, Moral and Environment Issues		
	Social and cultural influences on the consumer market	recognise the effects of social and cultural influences on textiles product design;	Consider the role of the designer and the impact his/her designs may have on society.
	Consumer choice	identify the factors involved in consumer choice;	Write questionnaire to establish consumer preferences and record these on spreadsheet / database. Look at professional market research questionnaires.
	Product maintenance, consumer rights legislation and codes of practice	take legislation concerning consumer rights and safety codes of practice into account when designing own textiles products; use current textiles labelling on own product in accordance with legislation;	Assess the implications of applying flame retardant finish to children's nightwear / a living room suite, in terms of the manufacturer and the customer.
	Moral and environmental issues	understand the moral and environmental issues associated with textiles production, the harmful effects of industrial pollution and the crucial need to treat and dispose of waste materials correctly; appreciate the importance of natural resources, conservation and recycling;	Research 'Green Technology' and brainstorm ways to lessen textiles pollution.
11.7	Health and Safety Issues		
	Identification and reduction of hazards and risks when designing and manufacturing textiles products	understand that safety for the product user is essential; assess hazard and risk factors in textiles product manufacturing, colouring fabrics, choice and use of fabrics, components, tools, equipment and work with these safely and effectively;	Collect safety labels from garments. Review safety practices in the workshop. Suggest improvement in the form of a report.
	Safety in working environment	recognise that safety of the workforce is essential; take responsibility to ensure that hazards are minimised and the working environment is safe to use;	Design a work station for a machinist in the textile industry.

Processes and Manufacture

Candidates should be aware of, and use as appropriate, manufacturing processes and techniques including CAD and CAM. They should have an industrial and commercial awareness and know about the processes involved in manufacturing for batch and mass production.

		Candidates should:	**Possible learning experiences**
11.8	Techniques and Processes		
	Selection and usage of appropriate textiles tools and equipment, including CAD and CAM	use appropriate tools and equipment accurately and safely to produce own quality products;	Test some of the different applications of tools and equipment, including CAD and CAM, to match methods with fabrics.
	Range of processes used for one-offs, batch and mass production	select and use the most appropriate technique /process, i.e. one-off, batch, line, mass production, to make up the chosen textiles design for the intended market;	Compare and contrast different techniques from one-offs to mass production. Research the various production systems and look at company web sites.
11.9	Systems and Control Procedures		
	Design, use and connection of systems and sub-systems	understand the critical factors that influence the development of a product; design and set up a system and interconnect with sub-systems to make a fashion / furnishing product, ensuring efficient use of time and energy and cost effectiveness;	Plan and produce flow charts to show a logical and efficient sequence of work. Produce detailed working diagrams to ensure efficient use of time and energy when manufacturing a garment/use CAD to produce an efficient fabric layout for a set of furnishings.
	Incorporation of feedback and checking procedures	incorporate feedback loops to analyse whether own system is working effectively and safely as the product is made;	Suggest different types of feedback loops to incorporate in different systems; compare with systems feedback used in industry.

		Candidates should:	Possible learning experiences
	Quality assurance through analysis and modification of system's performance by critical checks and tests	build into the system a series of critical checks to ensure that it works effectively; continually test and evaluate own product at critical stages of manufacture to ensure quality; modify the system if necessary;	Produce prototypes of own designs and test against specification; test, amend and modify prototypes of fashion garment/furnishing product to ensure that it meets the specification; keep control charts with relevant data of each stage in manufacture. Note modifications at each stage in manufacture which give final quality product.
11.10	Information and Communication Technology		
	Computer technology and communication techniques	use ICT and software packages as appropriate to research, collect, sort and present research information;	Use the Internet. Use databases for textile properties. Present survey data using spreadsheets, charts and graphs.
		use graphic techniques, including CAD, to generate, develop, modify, enhance, model and communicate design proposals and final specifications;	Use CAD software packages to develop/modify a pattern, for sizes and dimensions and to illustrate lay planning. Make use of a digital camera to consider alternative colourways and colour coordination.
	Usage of CAD and CAM in industry	recognise the importance and benefits of using CAD/CAM in the production of textiles in a modern industrial world; understand that CAD software can be used to aid planning for manufacture and that CAM can be used in single item and in batch/mass production;	Visit a factory/watch videos to show CAD/CAM in action in the industrial workplace. Use ICT software packages to help in the simulation of textiles production and assembly lines.
	Usage of CAD and CAM in the manufacture of own products	select and use modern manufacturing equipment appropriate to specific textiles tasks; use CAM to enhance accuracy and efficiency in the production of components and products;	Make use of a computerised sewing or knitting machine.

		Candidates should:	Possible learning experiences
11.11	Industrial Practices		
	Industrial and market awareness	understand that clients, designers, manufacturers and users all have a role in the development of textiles products for industrial manufacture;	Research these roles in the development of garment / item of furnishing. Arrange a class talk and discussion with a textiles designer.
	Industrial systems for batch/ volume production	prepare detailed production plans which reflect industrial practice, including scheduling, job sequencing and processing time, scales and costs of production; use comparison with industrial system(s) to identify inefficiencies in own system and incorporate more efficient methods of batch/volume production;	Research a small textiles business enterprise and observe systems at work; watch a video showing how prototype garments are produced in a day / showing the stages involved in rapid prototyping. Watch a video which shows methods of production (including CAD/CAM) used by textiles companies.
	Advertising and marketing	understand the importance of advertising textiles products: be aware of different distribution/ wholesale and retail methods, i.e. shops, boutiques, supermarkets and mail order catalogues and the Internet.	Suggest ways of advertising your product. Investigate different ways, including the Internet, of selling textiles products and their target markets.

Key Skills and Other Issues

12 Key Skills – Teaching, Developing and Providing Opportunities for Generating Evidence

12.1 Introduction

The Key Skills Qualification requires candidates to demonstrate levels of achievement in the Key Skills of *Application of Number, Communication* and *Information Technology*.

The units for the 'wider' Key Skills of *Improving own Learning and Performance, Working with Others* and *Problem-Solving* are also available. The acquisition and demonstration of ability in these 'wider' Key Skills is deemed highly desirable for all candidates, but they do not form part of the Key Skills Qualification. Design and Technology, however, does offer a unique opportunity for candidates to provide evidence for all six Key Skills.

Copies of the Key Skills Units may be downloaded from the QCA Website (http://www.qca.org.uk/keyskills).

The units for each Key Skill comprise three sections:

A What you need to know.

B What you must do.

C Guidance.

Candidates following a course of study based on this specification for Design and Technology (Textiles Technology) can be offered opportunities to develop and generate evidence of attainment in aspects of the Key Skills of *Application of Number, Communication, Information Technology, Improving own Learning and Performance, Working with Others* and *Problem-Solving*. Areas of study and learning that can be used to encourage the acquisition and use of Key Skills, and to provide opportunities to generate evidence for Part B of the units, are signposted below.

12.2 Key Skills Opportunities in Design and Technology (Textiles Technology)

The broad and multi-disciplinary nature of Design and Technology makes it an ideal vehicle to help candidates develop their knowledge and understanding of all Key Skills and to produce evidence of their application. It should be noted that, while *Working with Others* is an important aspect of Design and Technology, the work candidates submit for coursework assessment must be their own.

Application of Number Level 1

What you must do …	Signposting of Opportunities for Generating Evidence in Subject Content
N1.1 Interpret information from different sources	9.1, 10.1 – 10.11, 11.1 – 11.11
N1.2 Carry out calculations	10.5, 10.8, 10.11, 11.5, 11.11
N1.3 Interpret results and present findings	9.1, 10.4, 10.9, 11.4, 11.9

Application of Number Level 2

What you must do …	Signposting of Opportunities for Generating Evidence in Subject Content
N2.1 Interpret information from different sources	9.1, 10.1– 10.11, 11.1 – 11.11
N2.2 Carry out calculations	10.5, 10.8, 11.5, 11.8
N2.3 Interpret results and present findings	9.1, 10.4, 10.9, 11.4, 11.9

Communication Level 1

What you must do …	Signposting of Opportunities for Generating Evidence in Subject Content
C1.1 Take part in discussions	9.1, 10.6, 11.6
C1.2 Read and obtain information	9.1, 10.1– 10.11, 11.1 – 11.11
C1.3 Write different types of documents	9.1, 10.1– 10.11, 11.1 – 11.7

Communication Level 2

What you must do …	Signposting of Opportunities for Generating Evidence in Subject Content
C2.1a Contribute to discussions	9.1, 10.6, 10.11, 11.6, 11.11
C2.1b Give a short talk	10.11, 11.11
C2.2 Read and summarise information	9.1, 10.1– 10.11, 11.1 – 11.11
C2.3 Write different types of documents	9.1, 10.1– 10.11, 11.1 – 11.7

Information Technology Level 1

What you must do …	Signposting of Opportunities for Generating Evidence in Subject Content
IT1.1 Find, explore and develop information	9.1, 10.10, 11.10
IT1.2 Present information, including text, numbers and images	9.1, 10.9, 10.10, 11.9, 11.10

Information Technology Level 2

What you must do …	Signposting of Opportunities for Generating Evidence in Subject Content
IT2.1 Search for and select information	9.1, 10.10, 11.10
IT2.2 Explore and develop information and derive new information	9.1, 10.10, 11.10
IT2.3 Present combined information, including text, numbers and images	9.1, 10.9, 10.10, 11.9, 11.10

Working with Others Level 1

What you must do …	Signposting of Opportunities for Generating Evidence in Subject Content
WO1.1 Confirm what needs to be done and who is to do it	9.1, 10.7, 10.9, 11.7, 11.9
WO1.2 Work towards agreed objectives	9.1, 10.5, 10.6, 11.5, 11.6
WO1.3 Identify progress and suggest improvements	9.1, 10.5, 11.5

Working with Others Level 2

What you must do …	Signposting of Opportunities for Generating Evidence in Subject Content
WO2.1 Plan work and confirm working arrangements	9.1, 10.4, 10.5, 11.4, 11.5
WO2.2 Work cooperatively towards achieving identified objectives	9.1, 10.6, 11.6
WO2.3 Exchange information on progress and agree ways of improving work with others	9,1, 10.6, 11.6

Improving own Learning and Performance Level 1

What you must do …	Signposting of Opportunities for Generating Evidence in Subject Content
LP1.1 Confirm, short term targets and plan how these will be met	9.1, 10.5
LP1.2 Follow plan to meet targets and improve performance	9.1, 10.5
LP1.3 Review progress and achievement.	9.1, 10.5, 10.6, 11.5, 11.6

Improving Own Learning and Performance Level 2

What you must do …	Signposting of Opportunities for Generating Evidence in Subject Content
LP2.1 Help set short-term targets and plan how these will be met	9.1
LP2.2 Use plan and support from others, to meet targets	9.1
LP2.3 Review progress and identify evidence of achievements	9.1, 10.5, 11.5

Problem Solving Level 1

What you must do …	Signposting of Opportunities for Generating Evidence in Subject Content
PS1.1 Confirm understanding of given problems	9.1, 10.4, 11.4
PS1.2 Plan and try out ways of solving problems	9.1, 10.6, 11.6
PS1.3 Check if problems have been solved and describe the results	9.1, 9.2, 10.5, 11.5

Problem Solving Level 2

What you must do …	Signposting of Opportunities for Generating Evidence in Subject Content
PS2.1 Identify problems and come up with ways of solving them	9.1, 10.4, 11.4
PS2.2 Plan and try out options	9.1, 10.6, 11.6
PS2.3 Apply given methods to check if problems have been solved and describe the results	9.1, 10.5, 11.5

12.3 Further Guidance

More specific guidance and examples of tasks that can provide evidence of single Key Skills, or composite tasks that can provide evidence of more than one Key Skill are given in the AQA specification support material, particularly the Teachers' Guide.

13 Spiritual, Moral, Ethical, Social, Cultural and Other Issues

13.1 Spiritual, Moral, Ethical, Social, Cultural and Other Issues

The study of design and technology should contribute substantially to candidates' understanding of moral, ethical, social and cultural issues. Such issues underlie all design and manufacturing activities and are explicitly referred to in paragraphs 9.1 to 11.11 of the Subject Content. These issues will be tested in both coursework and the written paper.

13.2 European Dimension

AQA has taken account of the 1988 Resolution of the Council of the European Community in preparing this specification and associated specimen papers.

13.3 Environmental Issues

AQA has taken account of the 1988 Resolution of the Council of the European Community and the Report "*Environmental Responsibility: An Agenda for Further and Higher Education*" 1993 in preparing this specification and associated specimen papers.

Environmental considerations are important to the development of all designs and products. Awareness of these issues is specifically required in all sections of the Subject Content and will be tested in all components. See Section 14 for details of coursework requirements.

13.4 Citizenship

In the Key Stage 4 programme of study for Citizenship, *Developing skills of enquiry and communication* (Section 2) and *Developing skills of participation and responsible action* (Section 3) naturally parallel candidates' actions and approaches during project work. For example, the effects of certain products or manufacturing systems on society and the individual are matters of interest in design and technology, but they also touch on Section 2(a) of the Citizenship programme of study. Similarly, the designer needs to empathise with the end user (Section 3(a)) and in the process of designing needs to negotiate with clients or during market research to determine and achieve the desired ends (Section 3(b)).

13.5 Avoidance of Bias

AQA has taken great care in the preparation of this specification and associated specimen papers to avoid bias of any kind.

13.6 Health and Safety

Health and Safety impinges on all aspects of Design and Technology and requires consideration in terms of the maker, the manufacturer, the individual user and society at large. Health and Safety and related issues should therefore be an integral part of all teaching. They are expected to be considered in coursework and will also be tested in the written paper.

Centre-Assessed Component

14 Nature of the Centre-Assessed Component

14.1 The nature of Design and Technology

The distinguishing feature of any design and technology course is its practical nature. Knowledge and understanding is not therefore to be acquired purely for its own sake, but in order to satisfy the needs of clients and consumers, and the constraints placed on manufacturers in industrial and commercial contexts.

For Textiles Technology, candidates will focus on either fashion and accessories or textiles furnishings. They will also need to be familiar with the use of CAD and CAM.

Underpinning all learning are the designing, communication and making skills which make use of knowledge and understanding in order to produce outcomes which satisfy a design brief.

Designing

Designing is a process based activity involving the progressive engagement with a problem which requires thinking, creating, inventing, predicting, experimenting, decision making, constant evaluation and, where necessary, modification. Designers develop an awareness of the opportunities and constraints placed upon them by taking account of the demands of users and producers, market forces and the effects their products can have on society and the environment.

The activities detailed above draw upon relevant skills and knowledge which are enriched by the application of human values.

Making

The realisation of design ideas and solutions to problems is achieved by making products where a range of materials and media may be used. In design and technology, making activities may take many forms, ranging through early experimentation, testing and trials to a final marketable product. All the aspects detailed above provide opportunities for students to develop making skills as they seek to produce high quality outcomes.

Communication

Communication is an integral aspect of the whole process and it plays three major roles in any design and technology activity.

First, it enables the designer to visualise ideas and thoughts which permit detailed analysis. Second, it provides a record which can be referred to, adapted or refined as the process progresses. Third, it provides an explanation for others of the development of ideas from the mind to the outcome.

The range of communication methods is wide and becoming wider through the increasing use of ICT. All or any should be used *as appropriate to the task in hand* – notes, sketches, formal drawings, photographs, computer programs, oral communication and two or three dimensional representations are all relevant in particular circumstances.

14.2 The Coursework Project (Full and Short Courses)

Candidates are required to submit a single integrated project which consists of a *concise* design folder and/or appropriate ICT evidence and a 3-dimensional outcome. The whole activity should not exceed 40 hours for the Full Course and 20 hours for the Short Course.

GCSE Design and Technology involves increased emphasis on the industrial aspects of designing and making, particularly in the use of CAD/CAM, and on the wider effects of technological activity on society and the environment. These elements should therefore be evident in candidates' projects.

Candidates wishing to work with others may do so. Centres must ensure, however, that candidates select appropriate projects and provide individual and separate evidence of their own ability to design and make a quality product from start to finish.

Candidates may use the Board-set project outlines given in paragraph 15.2 below, formulate their own briefs or use briefs set by the centre. The centre is responsible for ensuring candidates attempt projects which satisfy the coursework requirements (see Section 15 below).

Candidates may enter for any other GCSE specification at the same sitting. However the submission of the same piece of coursework for more than one specification is prohibited.

14.3 Coursework Project (Short Course)

Quality designing and quality making are requirements for any Design and Technology project. With only 20 hours available for short course projects, however, it becomes particularly important that candidates use their time in the most profitable and effective way. The following advice is given to help teachers and candidates, but teachers will find fuller guidance in the Teachers' Guide.

The identification of a suitable task is a crucial factor in managing the short course project. Candidates undertaking short course projects should be guided by teachers to smaller, more focused or less complex problems than might be expected for a full course project. It should be noted, however, that the requirement for *quality* work is the same as for the full course, regardless of the scale of the work.

Candidates may use the Board-set project outlines given in Section 15.2 below, formulate their own briefs or use briefs set by the centre. The centre is responsible for ensuring candidates attempt projects which satisfy the coursework requirements (see Section 15 below).

Time management is another important element for successful short course projects. It is recommended that, before the project period begins, teachers provide a time plan for candidates, which allows realistic and proportionate time for the various stages and activities.

Time spent on an initial analysis of the problem will help to reduce or eliminate wasteful, unfocused research. Focused research can in turn reduce the time needed for a careful analysis.

Short course candidates are not expected to generate the same quantity of ideas as full course candidates, although the same level of creative ideas is still expected. The more focused analysis and research should help in producing a workable design solution more quickly.

Making skills represent two-thirds of the project marks and this should have been taken into account in the pre-planning stage. A quality product is still expected, but it does not need to be large or complex to gain high marks. The product does need, however, to include a variety of skills, techniques and/or processes that are completed to a high standard, and which overall satisfy the design objectives.

15 Guidance on Setting the Centre-Assessed Component

15.1 Project Outlines

Separate project outlines for each of the Full and Short Courses are given below for Design and Technology (Textiles Technology). Centres may use these or adapt them to meet the needs of their candidates. Centres wishing to develop their own outlines for candidates should take note of the following guidelines.

The checklist below is given to help teachers ensure that the project outlines they prepare will meet both the needs of candidates and the requirements of the specification. Prior approval of centre devised project outlines is not required.

a. Does the outline encourage an integrated approach to designing and making and represent a *level of demand* appropriate to the individual candidate's ability?

b. Has the outline or problem been so written that candidates will be able to demonstrate the highest level of their ability in each Assessment Objective?

c. Where a single outline, e.g. design and make an educational toy, is to be presented to a number of candidates covering a wide ability range, has each candidate produced a brief for him/herself that will be challenging, but not daunting?

d.
- Does the project outline offer scope for candidates to consider:
- the effects and implications of technological activity (e.g. industrial, social, moral, cultural, economic, environmental factors);
- systems and control;
- provision for product maintenance;
- repetition skills (e.g. multiple production);
- use of CAD/CAM and ICT skills in general;
- product quality;
- health and safety in relation to the maker and others?

e. Are the resources, equipment, tools, materials and media available for the potential demands of the project?

f. Can the project be completed satisfactorily in 40 hours (Full Course), in 20 hours (Short Course)?

g. Will the task permit sufficient supervision to enable the teacher to certify that the candidate's work is his/her own?

Where candidates work with others, it must be possible to identify the individual contribution of each candidate, so that the requirements in the specification are met.

h. Is the project outline free from political, ethnic, gender and other forms of bias?

15.2 List of Project Outlines

Full Course

The following list of possible projects is provided as a starting point for candidates. Candidates may use them, adapt them or devise their own.

1. You have been commissioned by an Art Gallery to design a waistcoat and a range of accessories inspired by the work of the Impressionists. If your designs are successful the gallery will consider having them produced in quantity to be sold at their craft shop. You are to make up the waistcoat and at least one accessory.
2. A local road safety officer is working with a local textile manufacturer to produce a range of textile products that will serve the purpose of protecting children from the dangers of traffic. As a designer you have been asked to put forward your ideas and to make up a prototype of at least one item. You are to design for manufacturing in quantity.
3. Current trend forecasts show that the Oriental theme is going to be popular with young people in next year's fashion items. Design a range of winter casual wear for teenagers and make up at least one garment to present with your designs to the company 'Out of Japan'. If it enhances your work and helps to sell your designs make up a fashion accessory to accompany the garment.
4. As a designer you have been asked to produce a scaled prototype of a room screen divider and seat cushion pads that could be used in a chain of upmarket tearooms found mainly in the historic towns and cities of England. As part of your presentation to the client, particularly if it promotes your work, you may like to suggest ideas for interior design. If your product design ideas are successful these products will be mass-produced.
5. You have been presented with the fashion trend forecasts for next year. You are required to design a range of casual garments based on the theme of 'Techno Man' to be sold in a popular teenage store. Make up a garment plus one accessory to accompany your outfit.
6. Your school has been asked to submit work to be displayed at a Textile Technology Exhibition. Design and make a range of futuristic 3D decorative items that illustrates the use of modern materials and techniques with particular emphasis on the use of CAD/CAM.

7. A modern home furnishing store has asked you to design a range of educational products for 1 – 2 year olds. The theme of the jungle proved very popular last year and the company want to increase their current range of fabrics, curtains and bedding by including some new ideas. Design and make an inspirational, original product that could enhance their current range. Safety is of paramount importance.

8. You have been asked to design and make a prototype of a quilted reversible jacket for car drivers, with comfort being a main consideration. You are to design and manufacture a logo motif that will be stitched on all their fashion garments in the future. If your design is successful it will be manufactured in quantity and retailed in a chain of national garage shops.

9. A local craft shop has invited you to produce a range of fashion accessories to display and sell in their shop. Their current popular trend is towards the theme of Africa. Design and make a selection of products that could be presented to the craft shop. If it proves to be popular you may be asked to produce the products in quantity.

10. The 'Café Societé' is a modern popular concept and many young people prefer the atmosphere of these upmarket coffee shops when meeting with friends. You have been invited to present your ideas for the interior design of The Café Royale and to produce some textile products that would enhance the space. Design and make a range of products that would appeal to 17 to 25 year olds.

11. You have been invited to enter a competition to design and make a textile product or products to be used in the children's section of the library. If your design is successful a local textile manufacturer intends to produce the product in quantity. Present your ideas to the textile manufacturer.

12. Schools are working very hard to promote Numeracy and Literacy. As a textile designer present your ideas for a range of products that could be used to improve the skills of children in either one of these areas. Make up at least one product and present your ideas to a local textile manufacturer with a view to having them mass-produced.

13. Many young people with learning difficulties can benefit from activity products made from textile materials. Using a range of modern fabrics and techniques design a product that will be of some educational value to a child with learning difficulties. If successful your product could be produced in quantity.

Short Course

1. You have been commissioned by an Art Gallery to design and make a waistcoat inspired by the work of Van Gogh. If your design is successful the gallery will consider having it produced in quantity to be sold at their craft shop.

2. Design and make an article of clothing that could be worn by a 5 year old to protect them in the dark on their way home from school. You are to design for manufacturing in quantity.

3. Design and make a drawstring bag to form part of a range popular with teenagers. The bags are currently sold in the high street store 'Out of Japan'.
4. As a designer you have been asked to produce a scaled prototype of a screen that could be used in a chain of upmarket tearooms found mainly in the historic towns and cities of England. If your design is successful the screen will be mass-produced.
5. You have been presented with the fashion trend forecasts for next year. You are required to design and make a garment based on the theme of Techno Man to be sold in a popular teenage store.
6. Your school has been asked to submit work to be displayed at a Textile Technology Exhibition. Design and make a futuristic 3D decorative item that illustrates the use of modern materials and techniques with particular emphasis on the use of CAD/CAM.
7. A modern home furnishing store has asked you to design and make an educational play mat for 1 – 2 year olds. The theme of farm animals proved very popular last year and the company want to increase the range by including some new products. You must consider all aspects of mass production.
8. You have been asked to design and make a prototype of quilted reversible waistcoat for car drivers, with comfort being a main consideration. If your design is successful it will be manufactured in quantity and retailed in a chain of national garage shops.
9. A local craft shop has invited you to produce a range of fashion accessories to display and sell in their shop. Their current popular trend is towards the theme of Africa. Design and make one product that could be presented to the craft shop. If it proves to be popular you may be asked to produce the item in quantity.
10. The 'Café Societé' is a modern, popular concept and many young people prefer the atmosphere of these upmarket coffee shops when meeting up with friends. You have been invited to present your ideas for the interior design of a café that would appeal to young people. Design and make one product to be used in the café.
11. A mail order catalogue is looking to increase the range of textile products for children. Market research has shown that activity blankets; mats and quilts are popular. Design and make a prototype based on the theme of dragons to present to the company.
12. You have been invited to enter a competition to design and make a textile product to be used in the children's section of the library. If your design is successful a local textile manufacturer intends to produce the product in quantity.
13. This year's fashion forecast shows that the theme of 'Suns' is going to be a popular trend. The colour range will be mainly blues and yellows. Design and make a pair of dungarees that could form part of the children's play clothes range.

15.3	Support Material	Further examples of project outlines are included in the *Teachers' Guide*. Other material to support teachers will be produced for the annual teachers' meetings in the Autumn Term.
15.4	Coursework Advisers	Coursework Advisers will be available to assist centres with any matters relating to coursework. Details will be provided when AQA knows which centres are following the specification.

16 Assessment Criteria

16.1 Introduction

Teachers are required to determine grades separately for the designing and making elements of their candidates' coursework. To do this they must use their professional judgement in conjunction with the Assessment Criteria given in 16.3 below.

The level of demand of a design brief should influence the interpretation of the criteria. A successful project which makes great demands on skills, cognitive abilities and breadth and depth of knowledge should be more highly rewarded than a successful project with fewer demanding aspects.

Quality of work is more important than quantity and size. For this reason no estimate of the number of pages in a design folio or of the size and complexity of the product is given. Candidates should, however, plan to produce **concise** design folders and 3D outcomes which can reasonably be completed, in total, in no more than 40 hours for the full course and no more than 20 hours for the short course. Candidates who do not complete their projects will be assessed on what they submit.

Candidates wishing to work with others may do so. Centres must ensure, however, that candidates select appropriate projects and provide individual and separate evidence of their own ability to design and make a quality product from start to finish.

The Assessment Criteria give guidance on the expected levels of achievement in Designing Skills and Making Skills for grades G-A. Teachers should note that A* does not feature as a coursework grade. A* grades are determined arithmetically on the total marks gained for the examination and are available only for candidates who have taken a Higher Tier paper.

As in any holistic assessment, a weak performance in one aspect of a candidate's work may be balanced by a strong performance in another. The principle of "best fit" should be applied when using these criteria.

An assessment of the quality of written communication in the design folder is to be made according to the criteria given in 16.4.

Centres are strongly recommended to provide candidates with feedback as their work progresses. This can not only encourage or reward the candidates, but it can also ease the assessment burden on teachers at the end of the coursework period.

Teachers should not record their comment on candidates' work; any written comments should be recorded on the Candidate Record Form.

16.2 Assessment Procedure

An assessment of a candidate's coursework should follow the pattern given below.

a. Guided by the criteria, assess the Designing Skills in terms of a whole grade, e.g. Grade C.

b. Refine that decision to High (H), Middle (M) or Low (L). A candidate only just achieving the required standard should be given the lowest assessment in the grade, (L), while a candidate just failing to reach the grade above should be given the highest in the grade (H).

c. Repeat a. and b. above for Making Skills.

d. Record the refined grade for Designing (e.g. High B = HB) and the refined grade for Making (e.g. Mid E = ME) on page 4 of the Candidate Record Form.

e. Using the *Project Assessment Matrix* (Appendix E), derive from the two grade decisions a single mark. For example, a High B for Designing and a Mid E for Making will produce a mark of 52.

f. Record the mark derived from the matrix in the space on page 4.

g. Using the criteria below, make an overall assessment of candidates' completed design folders for the quality of written communication (QWC) and determine a mark out of a maximum of 5 marks.

h. Record the QWC mark in the space provided on page 4.

i. Add together the Matrix mark and the QWC mark and write the total out of 95 in the Total Mark box.

j. The total mark for each candidate is to be recorded on the AQA mark sheet which will be sent to centres in the Spring Term.

16.3 Assessment Criteria

Candidates will have:

Grade	Designing	Making
G	1. gathered minimal research information; 2. provided little evidence of analysis of task or research; 3. produced a simple specification; 4. produced a solution, with rudimentary forward planning; 5. attempted a superficial evaluation of the outcome of their work; 6. demonstrated very limited communication, graphical and ICT skills; 7. provided little or no evidence of having considered industrial practices and systems and control.	1. used materials, components and equipment safely under close supervision; 2. produced references to the use of CAM where appropriate; 3. produced an undemanding or incomplete outcome; 4. some evidence of QA and QC.
F	1. used more than one source to gather research information; 2. made a limited attempt to analyse the task and the research material; 3. produced a generalised specification; 4. produced at least two proposals which satisfy parts of the specification; 5. used a proposal to produce the outcome with little development and forward planning; 6. superficially tested and evaluated their work against original intentions; 7. demonstrated limited communication, graphical and ICT skills; 8. provided limited evidence of having considered industrial practices and systems and control.	1. used materials, components and equipment correctly and safely (including CAM if appropriate); 2. produced a largely complete but undemanding outcome; 3. demonstrated accuracy and finish in some parts of the product; 4. produced evidence of some QA and QC.
E	1. used a limited number of sources to gather research information; 2. made a superficial analysis of the task and most of the research material; 3. produced a specification which reflects the most obvious features of the analysis; 4. produced some proposals which satisfy most of the specification; 5. used their proposals and relevant knowledge to produce a solution which satisfies most of the specification; 6. demonstrated some forward planning; 7. tested and evaluated some aspects of their work; 8. used some appropriate communication, graphical and ICT skills to convey design ideas; 9. provided limited evidence of having considered industrial practices and systems and control.	1. corrected working errors where necessary; 2. used materials, components, equipment and processes correctly and safely (including CAM if appropriate); 3. produced a largely complete and largely effective outcome; 4. demonstrated a fair degree of accuracy and finish in the overall product; 5. applied QA and QC broadly but superficially.
D	1. used several appropriate sources to gather relevant research information; 2. made a simple analysis of the task and all research material; 3. produced a specification which reflects most of the analysis; 4. produced several proposals which satisfy the specification; 5. used their proposals and relevant knowledge to develop a solution which satisfies the specification; 6. planned sequence of making activities; 7. tested and evaluated most aspects of their work and made some appropriate modifications; 8. used appropriate communication, graphical and ICT skills to convey design ideas; 9. provided limited evidence of having considered relevant industrial practices and systems and control.	1. appropriately corrected working errors; 2. used appropriate materials, components, equipment and processes correctly and safely (including CAM); 3. produced an effective and largely complete outcome; 4. demonstrated a reasonable level of accuracy and finish in the product.; 5. applied QA and QC broadly.

Candidates will have:

Grade	Designing	Making
C	1. used a variety of appropriate sources to gather and order relevant research information; 2. analysed the task and the research material; 3. produced a specification which reflects the analysis; 4. produced a range of proposals which satisfy the specification; 5. used their proposals and relevant knowledge to develop a detailed design solution which satisfies the specification; 6. planned a largely correct, and workable, sequence of main making activities; 7. tested, evaluated and modified their work throughout the process as appropriate; 8. used a range of communication, graphical and ICT skills sufficient to convey ideas to themselves and others; 9. provided evidence of having considered relevant issues, industrial practices and systems and control.	1. recognised the need for and justified any changes or adaptations; 2. used appropriate materials, components, tools, equipment and processes (including CAM) correctly and safely; 3. produced a complete, effective and well-assembled outcome; 4. demonstrated a level of accuracy and finish in the product which satisfies most of the demands of the design solution; 5. clearly used QA and QC to control quality in most activities.
B	1. produced a well ordered and relevant range of appropriate research information; 2. thoroughly analysed the task and research material; 3. produced a detailed specification closely reflecting the analysis; 4. produced a wide range of proposals which satisfy the specification; 5. used their proposals and relevant knowledge of techniques, manufacturing and working characteristics of materials to develop a detailed design solution; 6. planned the correct sequence of making activities; 7. tested, evaluated and modified their work throughout the process as appropriate; 8. used an appropriate range of communication, graphical and ICT skills sufficient to convey ideas to themselves and others effectively; 9. provided evidence of having considered relevant issues, industrial practices and systems and control.	1. recorded and justified the need for any changes or adaptations; 2. used appropriate materials, components, tools, equipment and processes (including CAM) skilfully, correctly and safely; 3. made a complete, effective and skilfully-produced outcome; 4. demonstrated a level of accuracy and finish in the product which satisfies the demands of the design solution; 5. provided evidence of QA & QC throughout manufacture.
A	1. used a wide variety of appropriate sources to gather relevant research information; 2. analysed the task and the research material logically, thoroughly and effectively; 3. produced a detailed specification which focuses closely on the analysis; 4. produced a wide range of distinct proposals which satisfy the specification; 5. used one or more of their proposals and relevant knowledge of techniques, manufacturing and working characteristics to develop a detailed and coherent design solution; 6. produced a correct sequence of activities which shows where, why and how practical production decisions were made; 7. tested, objectively evaluated and effectively modified their work throughout the process as appropriate; 8. selected and skilfully used a wide range of communication, graphical and ICT skills which have helped to clarify their thinking and are sufficient to convey ideas to themselves and others effectively and precisely; 9. provided evidence that they have considered and taken account of relevant issues, industrial practices and systems and control.	1. recorded and justified the need for any changes or adaptations; 2. used appropriate materials, components, equipment and processes (including CAM) consistently correctly, skilfully and safely; 3. made a complete product of high quality; 4. demonstrated an ability to satisfy accurately and completely all the demands of the design solution; 5. thoroughly considered QA & QC and applied them consistently and successfully.

16.4 Quality of Written Communication

An assessment for the quality of written communication shown in the completed design folder is to be made separately from the designing grade. Use the criteria given below and record the mark on the Candidate Record Form.

Marks	
4–5	Information is clearly and logically presented using an appropriate form. The text is legible. Candidates spell, punctuate and use the rules of grammar accurately, enabling the meaning to be clearly understood.
2–3	Information is presented in an appropriate form. The text is legible. Candidates generally spell, punctuate and use the rules of grammar accurately, although there may be some errors. The meaning is clear.
1	Some of the information presented is in an appropriate form. Generally the text is legible. Although there are errors in spelling, punctuation and grammar, candidates' meaning can be understood.
0	Candidates have failed to reach the standard required for the award of a mark.

16.5 Evidence to Support the Award of Marks

Teachers should keep records of their assessments during the course, in a form which facilitates the complete and accurate submission of the final assessments at the end of the course.

When the assessments are complete, the grades and/or marks awarded under each of the assessment criteria must be entered on the Candidate Record Form, with supporting information given in the spaces provided. A specimen Candidate Record Form appears in Appendix B; the exact design may be modified before the operational version is issued and the correct year's Candidate Record Forms should always be used.

17 Supervision and Authentication

17.1 Supervision of Candidates' Work

Candidates' work for assessment must be undertaken under conditions which allow the teacher to supervise the work and enable the work to be authenticated. If it is necessary for some assessed work to be done outside the centre, sufficient work must take place under direct supervision to allow the teacher to authenticate each candidate's whole work with confidence.

17.2 Guidance by the Teacher

The work assessed must be solely that of the candidate concerned.

The Coursework Project is, however, as much a vehicle for teaching as for assessment. It is therefore expected that the teacher will need to give advice and assistance to individual candidates as part of normal teaching. This should be provided, but normally in such a way that candidates have alternative possibilities to explore, and their own decisions to make about accepting or using the information or advice provided by the teacher. There may, of course, be occasions when direct teacher intervention is necessary to ensure safety, to prevent costly waste of materials or to provide a less able candidate with positive assistance.

In any case where assistance given to an individual candidate goes beyond normal teaching, details must be recorded on the Candidate Record Form and taken into account in the assessment of coursework.

17.3 Unfair Practice

At the start of the course, the supervising teacher is responsible for informing candidates of the AQA Regulations concerning malpractice. Candidates must not take part in any unfair practice in the preparation of coursework to be submitted for assessment, and must understand that to present material copied directly from books or other sources without acknowledgement will be regarded as deliberate deception. Centres must report suspected malpractice to AQA. The penalties for malpractice are set out in the AQA Regulations.

17.4 Authentication of Candidates' Work

Both the candidate and the teacher are required to sign declarations confirming that the work submitted for assessment is the candidate's own. The teacher declares that the work was conducted under the specified conditions, and records details of any additional assistance.

18 Standardisation

18.1 Standardising Meetings

Annual standardising meetings will usually be held in the autumn term. Centres entering candidates for the first time must send a representative to the meetings. Attendance is also mandatory in the following cases:

- where there has been a serious misinterpretation of the specification requirements;
- where the nature of coursework tasks set by a centre has been inappropriate;
- where a significant adjustment has been made to a centre's marks in the previous year's examination.

After the first year, attendance is at the discretion of centres. At these meetings support will be provided for centres in the development of appropriate coursework tasks and assessment procedures.

18.2 Internal Standardisation of Marking

The centre is required to standardise the assessments across different teachers and teaching groups to ensure that all candidates at the centre have been judged against the same standards. If two or more teachers are involved in marking a component, one teacher must be designated as responsible for internal standardisation. Common pieces of work must be marked on a trial basis and differences between assessments discussed at a training session in which all teachers involved must participate. The teacher responsible for standardising the marking must ensure that the training includes the use of reference and archive materials such as work from a previous year or examples provided by AQA. The centre is required to send to the moderator the Centre Declaration Sheet, duly signed, to confirm that the marking of centre-assessed work at the centre has been standardised. If only one teacher has undertaken the marking, that person must sign this form.

A specimen Centre Declaration Sheet appears in Appendix B.

19 Administrative Procedures

19.1 Recording Assessments

The candidates' work must be marked according to the assessment criteria set out in sections 16.3 and 16.4. The marks and supporting information must be recorded in accordance with the instructions in Section 16.5. The completed Candidate Record Form for each candidate must be attached to the work and made available to AQA on request.

At the beginning of the course, centres are required to inform the AQA of the approximate number of candidates to be entered for the examination so that the appropriate number of Candidate Record Forms may be sent.

19.2 Submitting Marks and Sample Work for Moderation

The total component mark for each candidate must be submitted to AQA on the mark sheets provided or by Electronic Data Interchange (EDI) by the specified date. Centres will be informed which candidates' work is required in the samples to be submitted to the moderator.

19.3 Factors Affecting Individual Candidates

Teachers should be able to accommodate the occasional absence of candidates by ensuring that the opportunity is given for them to make up missed assessments.

Special consideration should be requested for candidates whose work has been affected by illness or other exceptional circumstances. Information about the procedure is issued separately.

If work is lost, AQA should be notified immediately of the date of the loss, how it occurred, and who was responsible for the loss. AQA will advise on the procedures to be followed in such cases.

Where special help which goes beyond normal learning support is given, AQA must be informed so that such help can be taken into account when assessment and moderation take place.

Candidates who move from one centre to another during the course sometimes present a problem for a scheme of internal assessment. Possible courses of action depend on the stage at which the move takes place. If the move occurs early in the course the new centre should take responsibility for assessment. If it occurs late in the course it may be possible to accept the assessments made at the previous centre. Centres should contact AQA at the earliest possible stage for advice about appropriate arrangements in individual cases.

19.4 Retaining Evidence and Re–Using Marks

The centre must retain the work of all candidates, with Candidate Record Form attached, under secure conditions, from the time it is assessed, to allow for the possibility of an enquiry upon results. The work may be returned to candidates after the issue of results provided that no enquiry upon result is to be made which will include re-moderation of the coursework component. If an enquiry upon result is to be made, the work must remain under secure conditions until requested by AQA.

Candidates repeating the examination may carry forward their moderated mark for the coursework component once only and within a twelve month period.

20 Moderation

20.1 Moderation Procedures

Moderation of the coursework is by inspection of a sample of candidates' work. This will initially involve design folders for the sample being sent by post from the centre to the moderator appointed by AQA. Moderators will visit new centres to assess the practical outcomes. They will also visit other centres as needs dictate. The centre marks must be submitted to AQA and the sample of design folders must reach the moderator by the specified date in the year in which the qualification is awarded.

Following the re-marking of the sample work, the moderator's marks are compared with the centre marks to determine whether any adjustment is needed in order to bring the centre's assessments into line with standards generally. In some cases it may be necessary for the moderator to call for the work of other candidates. In order to meet this possible request, centres must have available the coursework and Candidate Record Form of every candidate entered for the examination and be prepared to submit it on demand. Mark adjustments will normally preserve the centre's order of merit, but where major discrepancies are found, AQA reserves the right to alter the order of merit.

20.2 Post-Moderation Procedures

On publication of the GCSE results, the centre is supplied with details of the final marks for the coursework component.

The candidates' work is returned to the centre after the examination with a report form from the moderator giving feedback to the centre on the appropriateness of the tasks set, the accuracy of the assessments made, and the reasons for any adjustments to the marks.

Some candidates' work may be retained by AQA for archive purposes.

Awarding and Reporting

21 Grading, Shelf-Life and Re-Sits

21.1 Qualification Titles

The qualifications based on this specification have the following titles:

AQA General Certificate of Secondary Education in Design and Technology (Textiles Technology).

AQA General Certificate of Secondary Education in Design and Technology (Textiles Technology) Short Course.

21.2 Grading System

The qualification will be graded on an 8 point grade Scale A*, A, B, C, D, E, F, G. Candidates who fail to reach the minimum standard for grade G will be recorded as U (unclassified) and will not receive a qualification certificate.

Candidates must be entered for either the Foundation Tier or Higher Tier. For candidates entered for the Foundation Tier, grades C–G are available. For candidates entered for the Higher Tier A*-D are available. There is a safety net for candidates entered for the Higher Tier, where an allowed Grade E will be awarded where candidates just fail to achieve Grade D. Candidates who fail to achieve a Grade E on the Higher Tier or Grade G on the Foundation Tier will be reported as unclassified.

21.3 Re-Sits

Individual components may not be retaken, but candidates may retake the whole qualification more than once.

21.4 Minimum Requirements

Candidates will be graded on the basis of work submitted for assessment.

21.5 Carrying Forward of Centre-Assessed Marks

Candidates re-taking the examination may carry forward their moderated coursework marks. These marks have a shelf-life which is limited only by the shelf-life of the specification, and they may be carried forward an unlimited number of times within this shelf-life.

21.6 Awarding and Reporting

The regulatory authorities, in consultation with GCSE awarding bodies, developed a revised Code of Practice for GCSE qualifications which were introduced in September 2000. This specification complies with the grading, awarding and certification requirements of the current GCSE, GCSE in vocational subjects, GCE, VCE, GNVQ and AEA Code of Practice 2006/7 and will be revised in the light of any subsequent changes for future years.

Appendices

A Grade Descriptions

The following grade descriptors indicate the level of attainment characteristic of the given grade at GCSE. They give a general indication of the required learning outcomes at each specific grade. The descriptors should be interpreted in relation to the content outlined in the specification; they are not designed to define that content.

The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives (as in section 6) overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F When designing and making products, and acquiring and applying knowledge, skills and understanding, candidates draw on and use various sources of information. They clarify their ideas through discussion, drawing and modelling; use their understanding of the characteristics of familiar products when developing and communicating their own ideas and work from their own plans, modifying them where appropriate.

Candidates work with a range of tools, materials, equipment, components and processes with some precision; check their work as it develops and modify their approach in the light of progress; test and evaluate their products, showing that they understand the situations in which their designs will have to function and are aware of resources as a constraint and evaluate their use of basic information sources.

Grade C When designing and making products, and acquiring and applying knowledge, skills and understanding, candidates use a wide range of appropriate sources of information and strategies to develop ideas, responding to information they have identified. They investigate form, function and production processes and communicate ideas, using appropriate media.

Candidates recognise the needs of users and develop realistic designs. They produce plans that make use of time and resources to carry out the main stages of making products. They work with a range of tools, materials, equipment, components and processes, taking account of their characteristics, and organise their work so that they can carry out processes accurately and consistently, and use tools, equipment, materials and components with precision.

Candidates adapt their methods of manufacture to changing circumstances, providing a sound explanation for any change from the initial specification. They select appropriate techniques to test and

evaluate how their products would perform when used and modify their products in the light of ongoing evaluation to improve their performance. They evaluate their use of information sources.

Grade A When designing and making products, and acquiring and applying knowledge, skills and understanding, candidates seek out and use information to help their detailed design thinking, and recognise the needs of a variety of client groups. They are discriminating in their selection and use of information sources to support their work and they use a wide range of strategies to develop appropriate ideas, responding to information they have identified.

Candidates investigate form, function and production processes and communicate ideas using a variety of appropriate media. They recognise the different needs of a range of users when developing fully realistic designs. When planning, they make sound decisions on materials and techniques based on their understanding of the physical properties and working characteristics of materials. They work from formal plans that make the best use of time and resources; work with a range of tools, equipment, materials and components to a high degree of precision and make products that are reliable and robust and that fully meet the quality requirements given in the design proposal.

Candidates identify conflicting demands on their design, explain how their ideas address these demands and use this analysis to produce proposals. They identify a broad range of criteria for evaluating and testing their products, clearly relating their findings to the purpose for which the products were designed and the appropriate use of resources, and fully evaluate their use of information sources.

B

Record Forms

ASSESSMENT and QUALIFICATIONS ALLIANCE

Centre-assessed work
Centre Declaration Sheet
2008

Specification Title: ..... **Unit Code:** .....

Centre Name: ..... **Centre No:** | | | | | |

Authentication

This is to certify that marks have been awarded in accordance with the requirements of the specification and that every reasonable step has been taken to ensure that the work presented is that of the candidates named. Any assistance given to candidates beyond that given to the class as a whole and beyond that described in the specification has been recorded on the Candidate Record Form(s) and has been taken into account. The marks given reflect accurately the unaided achievement of the candidates.

Signature(s) of teacher(s) responsible for assessment

Teacher 1 ..... **Teacher 2** .....

Teacher 3 ..... **Teacher 4** .....

Teacher 5 ..... **Teacher 6** .....

(Continue overleaf if necessary)

Internal Standardisation of Marking

Each centre must standardise the assessments for this unit across different teachers and teaching groups to ensure that all candidates in the centre have been judged against the same standards. If two or more teachers are involved in marking a unit, one of them must be designated as responsible for standardising the marking of all teachers at the centre who mark the unit.

The following declaration must be signed by the teacher responsible for ensuring standardisation. If all the work has been marked by the same person, that person should sign below.

I confirm that:

(a) *I have marked the work of all candidates for this component;
(b) *the procedure described in the specification has been followed at this centre to ensure that the marking is of the same standard for all candidates.

*(*Delete as applicable)*

Signed: ..... **Date:** .....

Signature of Head of Centre ..... **Date:** .....

This form should be completed and sent to the moderator with the sample of centre-assessed work.

ASSESSMENT and QUALIFICATIONS ALLIANCE

Centre-assessed work
Candidate Record Form
2008

D&T: Textiles Technology

Full Course (3547) ☐ Short Course (3557) ☐

(Tick box as appropriate)

Centre Name: ..... **Centre No:** | | | | | |

Candidate Name: ..... **Candidate No:** | | | | |

This side is to be completed by the candidate

Sources of advice and information

1. Have you received any help or information from anyone other than your subject teacher(s) in the production of this work? ..... (Write YES or NO)
2. If you have answered YES, give details below. Continue on a separate sheet if necessary.

   .....

3. If you have used **any** books, information leaflets or other materials (eg videos, software packages or information from the Internet) to help you complete this work, you must list these below, unless they are clearly acknowledged in the work itself. To present material copied from books or other sources without acknowledgement will be regarded as deliberate deception.

   .....

   .....

NOTICE TO CANDIDATE

The work you submit for assessment must be your own.

If you copy from someone else or allow another candidate to copy from you, or if you cheat in any other way, you may be disqualified from at least the subject concerned.

Declaration by Candidate

I have read and understood the **Notice to Candidate** (above). I have produced the attached work without any help apart from that which I have stated on this sheet.

Candidate's Signature: ..... **Date:** .....

This form should be completed and attached to the candidate's work and retained at the Centre or sent to the moderator as required.

DESIGNING SKILLS	*Comments should be added where they will help with the interpretation of work*	Grade
Research		
Analysis (of problem/task and research)		
Specification		
Generation of ideas		
Development of solution		
Planning of making		
Evaluation, testing and modification		
Use of communication, graphical and use of ICT skills		
Social issues, Industrial practices and systems and control (including the use of CAD)		
	FINAL DESIGNING GRADE	

MAKING SKILLS	*Comments should be added where they will help with the interpretation of work*	Grade
Correction of working errors (where needed) including modifications		
Use of appropriate equipment and processes (including the use of CAM)		
Production and effectiveness of outcome		
Level of accuracy and finish		
Use of Quality Assurance (QA) and Quality Control (QC)		
	FINAL MAKING GRADE	

This side is to be completed by the teacher

The grades and marks for the project must be awarded in accordance with the instructions and criteria in Section 16 of the specification.

Complete the table below

1	Designing Grade	
2	Making Grade	
3	Matrix Mark (max 90)	
4	QWC Mark (max 5)	
5	Total Mark (3+4)	

Supporting information to show how the final assessment has been arrived at should be given briefly in the form of annotation on pages 2 and 3 and additional information given in the space below where necessary.

Additional assistance given (if any).
Record below details of any assistance given to this candidate which is beyond that given to the class as a whole and beyond that described in the specification.

Teacher's Signature: ..... **Date:** .....

C

Overlaps with other Qualifications

Some overlaps exist between this and other Design and Technology specifications. The overlap is primarily in the design process and the scheme of assessment. As all specifications conform to the GCSE Design and Technology Subject Criteria, there are also overlaps of broad content, e.g. ICT, health and safety, systems and control, industrial, commercial practice and some overlap of materials in Textiles Technology and Resistant Materials Technology.

D

Project Assessment Matrix

DESIGN & TECHNOLOGY PROJECT ASSESSMENT MATRIX

MAKING SKILLS		DESIGNING SKILLS																					
		A			B			C			D			E			F			G			U		
		H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L
A	H	90	89	88	86	85	84	82	81	80	78	77	76	74	73	72	70	69	68	66	65	64	62	61	60
	M	88	87	86	84	83	82	80	79	78	76	75	74	72	71	70	68	67	66	64	63	62	60	59	58
	L	86	85	84	82	81	80	78	77	76	74	73	72	70	69	68	66	65	64	62	61	60	58	57	56
B	H	82	81	80	78	77	76	74	73	72	70	69	68	66	65	64	62	61	60	58	57	56	54	53	52
	M	80	79	78	76	75	74	72	71	70	68	67	66	64	63	62	60	59	58	56	55	54	52	51	50
	L	78	77	76	74	73	72	70	69	68	66	65	64	62	61	60	58	57	56	54	53	52	50	49	48
C	H	74	73	72	70	69	68	66	65	64	62	61	60	58	57	56	54	53	52	50	49	48	46	45	44
	M	72	71	70	68	67	66	64	63	62	60	59	58	56	55	54	52	51	50	48	47	46	44	43	42
	L	70	69	68	66	65	64	62	61	60	58	57	56	54	53	52	50	49	48	46	45	44	42	41	40
D	H	66	65	64	62	61	60	58	57	56	54	53	52	50	49	48	46	45	44	42	41	40	38	37	36
	M	64	63	62	60	59	58	56	55	54	52	51	50	48	47	46	44	43	42	40	39	38	36	35	34
	L	62	61	60	58	57	56	54	53	52	50	49	48	46	45	44	42	41	40	38	37	36	34	33	32
E	H	58	57	56	54	53	52	50	49	48	46	45	44	42	41	40	38	37	36	34	33	32	30	29	28
	M	56	55	54	52	51	50	48	47	46	44	43	42	40	39	38	36	35	34	32	31	30	28	27	26
	L	54	53	52	50	49	48	46	45	44	42	41	40	38	37	36	34	33	32	30	29	28	26	25	24
F	H	50	49	48	46	45	44	42	41	40	38	37	36	34	33	32	30	29	28	26	25	24	22	21	20
	M	48	47	46	44	43	42	40	39	38	36	35	34	32	31	30	28	27	26	24	23	22	20	19	18
	L	46	45	44	42	41	40	38	37	36	34	33	32	30	29	28	26	25	24	22	21	20	18	17	16
G	H	42	41	40	38	37	36	34	33	32	30	29	28	26	25	24	22	21	20	18	17	16	14	13	12
	M	40	39	38	36	35	34	32	31	30	28	27	26	24	23	22	20	19	18	16	15	14	12	11	10
	L	38	37	36	34	33	32	30	29	28	26	25	24	22	21	20	18	17	16	14	13	12	10	9	8
U	H	34	33	32	30	29	28	26	25	24	22	21	20	18	17	16	14	13	12	10	9	8	6	5	4
	M	32	31	30	28	27	26	24	23	22	20	19	18	16	15	14	12	11	10	8	7	6	4	3	2
	L	30	29	28	26	25	24	22	21	20	18	17	16	14	13	12	10	9	8	6	5	4	2	1	0