

Edexcel use only

ADVANCED SUBSIDIARY (AS) GCE DESIGN AND TECHNOLOGY: PRODUCT DESIGN
 (First examination from summer 2009)

CENTRES MUST FOLLOW ALL INSTRUCTIONS GIVEN IN THIS DOCUMENT. FAILURE TO DO SO COULD RESULT IN LATE RETURN OF RESULTS.

Unit Code <i>Please refer to page 2</i>	
Candidate Name	
Candidate Number	
Centre Name	
Centre Number	
Year of Examination	

Edexcel Advanced Subsidiary (AS) GCE in Design and Technology: Product Design –

- Resistant Materials Technology
- Graphic Products

Coursework Assessment Booklet (CAB) from Summer 2009 onwards

This document is a key tool in the assessment of coursework for Design and Technology:
Product Design –

- Resistant Materials Technology
- Graphic Products

Please ensure that you follow all the procedures outlined in this booklet.

Unit code checklist for AS coursework

Unit		Unit Code
Product Design: Resistant Materials Technology	Unit 1: Portfolio of Creative Skills	6RM01
Product Design: Graphic Products	Unit 1: Portfolio of Creative Skills	6GR01

Coursework submission

- The teacher responsible for overseeing the candidate's work must ensure that a separate CAB is completed for each candidate.
- The coursework folder and CAB for each candidate in the sample must be sent by the date published in the GCE timetable and information manual. This date will normally be in early May of each examination year.
- Please see the "INSTRUCTION FOR COMPLETION AND SAMPLING" notes on the back of the OPTEMS for further details.

Front Cover

- Please enter the unit code, candidate name, candidate number, centre name, centre number and year of examination on the front cover.

Coursework details

- Candidate and teacher **must** authenticate the work submitted by completing the appropriate sections on page 11.

Photographic evidence of completed outcomes

- Photographic evidence of completed outcome(s) for the Product Manufacture section **must** be attached to each CAB. The outcomes must be clearly labelled with the candidate name, candidate number, centre name, centre number and unit code before being photographed. The quality of the photography **must** be sufficient to enable moderators to see the completed project clearly and in detail.

Teacher annotation

- Each CAB should include teacher annotation indicating where the marks for each assessment criterion have been awarded, this should be page referenced to the student's folder.

Assessment criteria grid

- Enter one mark for each criterion. Fill in the totals where indicated on pages 5, 7, and 9.
- The levels of response are indicators of what to expect and must be considered as a framework rather than as absolute. Therefore candidates should not be penalised for omitting some aspect of a given level if in all other respects their response is excellent.

Assessment criteria grid

Product Investigation

Assessment criteria	Level of response
A. Performance analysis	Fully justify key technical specification points that relate to form, function, user requirements, performance requirements, materials and/or component requirements, scale of production and costs. Compare and contrast one other existing similar product using the technical specification.
	Identify with some justification a range of realistic and relevant specification points that include reference to form, function and user requirements.
B. Materials and components	Suggest, with reference to quality and performance, alternative materials and/or components that could have been used in the product. Evaluate, using advantages and disadvantages, the selection of the materials and/or components used. Describe the impact on the environment of using the materials and/or components identified.
	Describe a range of useful properties that relate to the materials and/or components identified and justify their selection and use in the product. Identify alternative materials and/or components that could have been used in the product.
	Identify a material or component used in the product. Describe a useful property of that material or component and justify its use.
C. Manufacture	Evaluate, using advantages and disadvantages, the selection of the manufacturing processes used in the product. Suggest one alternative method of production that could have been used in the manufacture of the product. Describe the impact on the environment of using the processes identified in the production of the product.
	Describe a range of processes used in the manufacture of the product and fully justify their use for the level of production of the product.
	Identify, describe and justify the use of a manufacturing process used in the construction of the product.
D. Quality	Describe a range of quality control checks used during the manufacture of the product and explain how the main relevant standards influenced the manufacture of the product. Describe a quality assurance (QA) system for the product.
	Identify, describe and justify the use of one quality control check during the manufacture of the product.

TEACHER ANNOTATION		MARK RANGE	TEACHER MARK	EDEXCEL USE ONLY
Evidence found on page(s)	Comments			
		4-6		
		1-3		
		7-9		
		4-6		
		1-3		
		7-9		
		4-6		
		1-3		
		4-6		
		1-3		

Product Design

Assessment criteria	Level of response
E. Design and development	<p>Present alternative ideas that are workable, realistic and detailed and which fully address the design criteria.</p> <p>Ideas demonstrate detailed understanding of materials, processes and techniques.</p> <p>Produce a final design proposal that is significantly different and improved compared to any previous alternative design ideas.</p> <p>The design proposal includes technical details of materials and components, processes and techniques.</p> <p>Modelling through the use of traditional materials or 2D and/or 3D computer simulations is used to test important aspects of the final design proposal.</p> <p>The final design proposal is evaluated objectively against the design criteria in order to fully justify the design decisions taken.</p>
	<p>Present realistic alternative design ideas.</p> <p>Ideas are detailed and address most design criteria.</p> <p>Developments are appropriate and use details from ideas to change, refine and improve the final design proposal.</p> <p>A final detailed design proposal is presented.</p> <p>Modelling is used to test some aspects of the final proposal against relevant design criteria.</p> <p>Evaluative comments objectively consider some aspects of the design brief/need.</p>
	<p>Present simplistic alternative design ideas.</p> <p>Ideas are superficial and address limited design criteria.</p> <p>Developments are minor and cosmetic.</p> <p>A basic final design proposal is presented.</p> <p>Basic modelling is used to test an aspect of the design proposal.</p> <p>Evaluative comments are subjective and superficial.</p>
F. Communicate	<p>Use a range of communication techniques and media including ICT and CAD, with precision and accuracy to convey enough detailed and comprehensive information to enable third-party manufacture of the final design proposal.</p> <p>Annotation provides explanation and most technical details of materials and processes with justification.</p>
	<p>Use a range of communication techniques, including ICT, that are carried out with sufficient skill to convey an understanding of design and develop intentions and construction details of the final design proposal.</p> <p>Annotation provides explanation and most technical details of materials and process selection.</p>
	<p>Use a limited range of communication techniques carried out with enough skill to convey some understanding of design and develop intentions.</p> <p>Annotation provides limited technical details of materials and processes.</p>

TEACHER ANNOTATION		MARK RANGE	TEACHER MARK	EDEXCEL USE ONLY
Evidence found on page(s)	Comments			
		13-18		
		7-12		
		1-6		
		9-12		
		5-8		
		1-4		

Product Manufacture

Assessment criteria	Level of response
G. Production plan	Produce a detailed production plan that considers stages of production in the correct sequence, realistic time scales and deadlines for the scale of production.
	Produce a limited production plan that considers the main stages of manufacture, reference to time and scale of production.
H. Making	<p>Demonstrate a detailed understanding and justified selection of a range of appropriate materials and processes.</p> <p>Demonstrate demanding and high quality making skills and techniques.</p> <p>Show accuracy and precision when working with a variety of materials, processes and techniques.</p> <p>High-level safety awareness is evident throughout all aspects of manufacture.</p>
	<p>Demonstrate a good understanding and selection of an appropriate range of materials and processes.</p> <p>Demonstrate competent making skills and techniques appropriate to a variety of materials and processes.</p> <p>Show attention to detail and some precision.</p> <p>Demonstrate an awareness of safe working practices for most specific skills and processes.</p>
	<p>Demonstrate a limited understanding and selection of a narrow range of materials and processes.</p> <p>Use limited making skills and techniques.</p> <p>Demonstrate little attention to detail.</p> <p>Demonstrate an awareness of specific safe working practices during product manufacture.</p>
I. Testing	<p>Describe and justify a range of tests carried out to check the performance or quality of the product(s).</p> <p>Relevant, measurable points of the design brief(s)/need(s) are objectively referenced.</p> <p>Third-party testing is used.</p>
	<p>Carry out one or more simple tests to check the performance or quality of the final product(s).</p> <p>Some points of the design brief(s)/need(s) are referenced superficially.</p> <p>Test results are recorded and are subjective.</p>

TEACHER ANNOTATION		MARK RANGE	TEACHER MARK	EDEXCEL USE ONLY
Evidence found on page(s)	Comments			
		4-6		
		1-3		
		13-18		
		7-12		
		1-6		
		4-6		
		1-3		
OVERALL TOTAL		MAX. MARK	TEACHER MARK	EDEXCEL USE ONLY
TOTAL NUMBER OF MARKS AVAILABLE FOR PRODUCT INVESTIGATION, PRODUCT DESIGN AND PRODUCT MANUFACTURE		90		

Photographic evidence for the Product Manufacture section

(A maximum of three photographs must be submitted)

Please refer to the instructions on page 2.

Sources of Assistance

Use this box to give details of any sources of assistance used in completion of the coursework described in this booklet other than the normal practical assistance given in school and college environments.

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Candidate's Declaration

I certify that the coursework submitted is my own work; that it has not previously been submitted for any other level of examination and that all sources of assistance that have been used are acknowledged in the box above.

Signature of Candidate		Date	
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Teacher's Declaration

I certify that the candidate named on the booklet completed coursework submitted and that it has not previously been submitted for any other level of examination.

Signature of Teacher		Date	
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By signing the above declaration you agree to your coursework being used to support Professional Development, Online Support and training of both Centre-Assessors and Edexcel Moderators and to be used as an exemplar piece of work. If you have any concerns regarding this please contact d&t@edexcel.com.