

AS level
Product Design
(3-D design)

2011-2012

Student Handbook - A level Product Design

Qualification Details & Programme Overview

The 2 Courses that QK offers currently is:

- AS Level Product Design (3-D design)
- A2 Level Product Design (3-D design) to be taken after AS Level is completed.
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Exam board : AQA

Website: <http://www.aqa.org.uk/>

Weightings of Course elements

AS:	Coursework	50%	
	Exam	50%	2 hours
A2:	Coursework	50%	
	Exam	50%	2 hours

Teacher contact details

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Why choose Product Design?

Think about the objects that you love. Your mobile phone with its delicious curves was designed on a computer screen. The car you yearn for started life as a reduced size clay model. A building that you admire sprang from the drawing board of an architect. And it's not a new phenomenon. Our fascination with 3D design goes back to flint arrow heads and earthenware pots. As a 3D designer you are at the crossroads of a number of skills. Of course you need creativity, in order to imagine the shape and function of the object. But you'll also need to know about manufacturing processes, materials and marketing.

Your key learning topics

Your A Level studies cover four main topics, and you'll study two of these each year. In '*Materials, components and application*' - you'll look at materials, production processes and the impact of cost and design. In '*Learning through designing and making*' you'll produce some coursework using your own design with a range of materials and media. In the second year you'll get to grips with '*Design and manufacture*' - helping you to appreciate the relationship between design and technology, or form and function. '*Design and making in practice*' is the practical, coursework part. You'll make an object and record the processes that you went through.

Where will success take me?

3D design could take you into a number of exciting career paths. Of course there's product or automotive design. But what about computer generated cartoons? Or maybe CAD for industry appeals to you more? This course could take you into architecture, teaching, manufacturing, advertising or engineering.

What skills will I learn?

The D&T Product Design3D will help you develop a number of skills:

- How to assemble data and assess it
- How to investigate facts and use deduction
- How to put over your point of view fluently
- How to take responsibility for your own learning

Expectations

The following is expected of you and will help you achieve your full potential:

- Respect your teacher, class mates and your working environment
- Attend all your lessons
- Make sure you arrive to class on time with the correct equipment
- Submit your work on the deadline date given by your teacher
- Follow the QK code of conduct in class
- Buy the Product Design AQA book
- To arrive with your coursework folder to all coursework lessons
- To have your course notes and Product Design book for all exam preparation lessons

What you will receive from your teacher:

- Regular feedback on work submitted
- All the help and support you need
- Resources & links
- Assignment sheet & assessment sheet

Course outline

Term 1 **Miss Johns** Exam preparation.

Week 2 + 3	Wood, its uses and properties
Week 4, 5 &6	Plastic and the processes used to make plastic products
Week 7	Types of plastic and their properties

Term 2

Week 1	Types of plastic and their properties
Week 2 &3	Thermo set plastics and their properties
Week 4	Bio-degradable polymers
Week 5	Elastomers
Week 6	Product analysis of plastic products
Week 7	Mock exams on wood and plastics

Term 3

Week 1 &2	Ergonomics and Anthropometrics
Week 3	Environmental issues
Week 4	Compliant Materials
Week 5	Smart and modern materials
Week 6	Composite materials
Week 7	Metals: Casting and finishing processes

Term 4

Week 1	Manufacturing sheet metal
Week 2	Product Analysis of metal products and their properties
Week 3	Health and safety
Week 4	Quality control
Week 5	Joining materials
Week 6	Finishing processes on different materials

Term 5

Week 1	Properties and materials testing
Week 2	Exam questions and revision on Plastics
Week 3	Exam questions and revision on ergonomics, anthropometrics and the environment. Essay style questions
Week 4	Exam questions and revision; Metals and woods
Week 5	Exam questions and revision: Compliant, composite, smart and modern materials

Course outline AS -

Andrew Thompson

Unit 2 – PROD2 Learning Through Designing and Making

50% of AS, 25% of A Level

Coursework – approx 50 hours

80 marks

Written (or electronic) design portfolio

Manufactured outcome(s)

Coursework may take a number of forms: a simple design-and-make project, two smaller projects or a portfolio of work

Term 1: Investigation and Clarification of Problems

Term 2: Development of Design Proposal

Term 3: Making / Modelling

Term 4: Evaluation and Testing. Context and Objectives (A2)

Coursework deadline: Last lesson before Easter holiday.

Assessment for Product Design

		Date	Mark
Term 1	Wood exam		
Term 1	Plastics exam : Thermoplastic		
Term2	Coursework: Investigation and clarification of the problem: Torch project		
Term 2	Development of design proposal		
Term 2	1 hour mock exam on Plastics and woods		
Term 3	Manufacture of design proposal: Torch		
Term 3	Evaluation and testing of torch		
Term 3	Test on ergonomics, anthropometrics and environmental issues		
Term 3	Test on compliant, composite, smart and modern materials		
Term 4	Communication and Presentation of torch		
Term 4	Final hand in of coursework folder (50% of AS grade)		
Term 4	Metal test		

Specified reading :AQA Design and Technology: Product Design (3-D Design): Brian Evans and Will Potts

Course outline A2

Andrew Thompson

Unit 4 – PROD4 Design and Making Practice

25% of A Level

Coursework – approx 60 hours

85 marks

Written (or electronic) design folder

Manufactured outcome

Candidates submit evidence of a simple, substantial designing and making activity

This unit is the AS Centre-Assessed Component.

This is a design-and-make unit where knowledge of the AS subject content is applied to the design and making of the candidates' own projects.

This unit is the A2 Centre-Assessed Component.

This is a design-and-make unit where knowledge of the AS and A2 subject content is applied to the design and manufacture of candidates' own projects.

Term 1: Plan of Action and Clarification of Problem

Term 2: Development of Design Proposal

Term 3: Manufacture/Modelling

Term 4: Conclusions, Evaluations and Recommendations.

Coursework deadline: First week back after Easter holidays

Plagiarism Policy

Plagiarism, as defined in the 1995 Random House Compact Unabridged Dictionary, is the "use or close imitation of the language and thoughts of another author and the representation of them as one's own original work."

The use of referenced material is encouraged by the department to add weight of argument to a piece of work or particular point. Any quotations within a piece of work are expected to be noted. Additional care must be observed given that all Edexcel moderated work is electronically scanned.

Teachers will take every reasonable care to monitor work which is copied between students' assignments. Submitted work which is copied will be dealt with on a case by case basis. No work which is suspected will be submitted to Edexcel meaning that plagiarised submissions will not be counted towards a final grade. Student's overall grade will therefore suffer directly as a result of any plagiarism.

Appeals Procedure

The assessor will forward your case to the Lead Internal Verifier. Your case will be discussed and your work will be moderated and feedback is given to you. The case will also be discussed with the Head of Department but the decision of the appeals Panel is final. The Lead Internal Verifier will inform the candidate as soon as a decision has been made and this will take no longer than two weeks. The appeal is logged and kept in the programme file for the External Verifier and as evidence.