

# New A Level Design and Technology: Product Design

**H053 and H453 replacing 3822, 3823 and 7822, 7823**

Information for OCR centres transferring to **new specifications for first teaching in September 2008**

This document maps the current A Level Design and Technology: Product Design specification to the new specification for first teaching in September 2008. It includes information on the changes, support available and an outline of the new specification. It is intended to help ease the transition for Heads of Department and Teachers involved in the teaching of A Level Design and Technology: Product Design

The full specification is available online along with a short questionnaire enabling you to share your comments on the specification and help shape the materials developed to support it. For more information including answers to frequently asked questions visit [www.ocr.org.uk/14-19alevels](http://www.ocr.org.uk/14-19alevels)

**Current specification – mapping the changes**  
**Outline specification for first teaching September 2008**

**pages 2-3**  
**page 4**

**QCA have stipulated that:**

- Number of units required is reduced from six to four



# Mapping the changes to the A Level Design and Technology: Product Design specification for first teaching September 2008

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Existing specification					
Current unit title	Unit code	What remains the same?	What is changing?	Why is it changing?	Guidance
AS System Case Study	<b>2518</b> Mandatory 30% (AS) 15% (A Level) Externally Marked Systems case study	<ul style="list-style-type: none"> <li>Nothing</li> </ul>	<ul style="list-style-type: none"> <li>Everything. This unit is no longer an individual case study. It has been replaced by the Advanced Innovation Challenge which requires the candidate to research a set theme and then respond to a range of challenges under timed examination conditions.</li> <li>New unit code F521.</li> </ul>	<ul style="list-style-type: none"> <li>The Advanced Innovation Challenge will still provide opportunities for research but will also motivate candidates to demonstrate their creativity and innovation when reacting to a design situation (challenge).</li> </ul>	<ul style="list-style-type: none"> <li>Coursework guidance and sample material on the web.</li> <li>Advice in Support Material booklet.</li> </ul>
AS Product Study	<b>2519</b> Mandatory 40% (AS) 20% (A Level) Centre marked and externally moderated coursework	<ul style="list-style-type: none"> <li>This unit still involves an in-depth product analysis resulting in suggestions for improvements. As previously this does not involve the complete redesign of an existing product, but rather the identification of opportunities for its further development or enhancement.</li> </ul>	<ul style="list-style-type: none"> <li>The number of assessment criteria has been reduced from twelve to eight.</li> <li>Ideas development and modelling have been integrated into a single criterion.</li> <li>Testing of final developed idea requires an appropriate method or system to formally test and evaluate the final developed idea or the suitability of proposed materials, components or ingredients. There is no longer a set requirement for the making of a test rig.</li> <li>New unit code F522.</li> </ul>	<ul style="list-style-type: none"> <li>Integrating ideas development and modelling will allow design development in real time with models forming part of the design process and helping in the development of the final idea. Marking this section as a whole unit should allow greater opportunity to reward candidates for high level integrated design development.</li> </ul>	<ul style="list-style-type: none"> <li>Coursework guidance and sample material on the web.</li> <li>Advice in Support Material booklet.</li> </ul>
AS Product Design 1	<b>2520</b> Optional 30% (AS) 15% (A Level) Written paper.		<ul style="list-style-type: none"> <li>This unit does not occur in the Draft specification for 2008.</li> </ul>	<ul style="list-style-type: none"> <li>AS is reducing to two units from three.</li> <li>The written examination element is taken as part 3 of the Advanced Innovation Challenge.</li> </ul>	
AS Systems and Control Technology 1	<b>2521</b> Optional 30% (AS) 15% (A Level) Written paper.		<ul style="list-style-type: none"> <li>This unit does not occur in the Draft specification for 2008.</li> </ul>	<ul style="list-style-type: none"> <li>AS is reducing to two units from three.</li> <li>The written examination element is taken as part 3 of the Advanced Innovation Challenge.</li> </ul>	

A2

Existing specification					
Current unit title	Unit code	What remains the same?	What is changing?	Why is it changing?	Guidance
<b>Designing</b>	<b>2522</b> Mandatory 15% (A Level) Centre marked and externally moderated Coursework linked with unit 2523	<ul style="list-style-type: none"> <li>There will still be an individual project involving Design, Make and Evaluation but this will be combined into a single unit rather than the two linked units in the existing specification.</li> </ul>	<ul style="list-style-type: none"> <li>The assessment criteria are reduced from twenty one (across 2522 and 2523) to 8 in the draft specification.</li> <li>Greater weighting is applied to the processes of designing, making and evaluating. Innovation is a key factor and candidates are also required to produce a marketing presentation and to review and reflect on their work.</li> <li>New unit code FS523.</li> </ul>	<ul style="list-style-type: none"> <li>Integrating design, design development and making into a single assessment criterion allows a holistic approach to be taken to assessment. This caters for different types of product/material content where the balance between designing and making may differ but where the overall demand is the same. This flexibility was not available within the existing specification.</li> <li>A marketing presentation is a realistic way for candidates to address the commercial potential of their product.</li> <li>Review and reflection allows candidates to evaluate the effectiveness of the product as well as the designing and making process that they followed.</li> </ul>	<ul style="list-style-type: none"> <li>Coursework guidance and sample material on the web.</li> <li>Advice in Support Material booklet.</li> </ul>
<b>Making and Evaluating</b>	<b>2523</b> Mandatory 15% (A Level) Centre marked and externally moderated Coursework linked with unit 2522	<ul style="list-style-type: none"> <li>There will still be an individual project involving Design, Make and Evaluation but this will be combined into a single unit rather than the two linked units in the existing specification.</li> </ul>	<ul style="list-style-type: none"> <li>The assessment criteria are reduced from twenty one (across 2522 and 2523) to 8 in the draft specification.</li> <li>Greater weighting is applied to the processes of designing, making and evaluating. Innovation is a key factor and candidates are also required to review and reflect on their work.</li> <li>New unit code FS523.</li> </ul>	<ul style="list-style-type: none"> <li>Integrating design, design development and making into a single assessment criterion allows a holistic approach to be taken to assessment. This caters for different types of product/material content where the balance between designing and making may differ but where the overall demand is the same. This flexibility was not available within the existing specification.</li> <li>A marketing presentation is a realistic way for candidates to address the commercial potential of their product.</li> <li>Review and reflection allows candidates to evaluate the effectiveness of the product as well as the designing and making process that they followed.</li> </ul>	<ul style="list-style-type: none"> <li>Sample Assessment Materials in the form of two question papers.</li> <li>Exemplar materials.</li> </ul>

A2

Existing specification					
Current unit title	Unit code	What remains the same?	What is changing?	Why is it changing?	Guidance
Product Design 2	<b>2524</b> Optional 20% (A Level) Written paper	<ul style="list-style-type: none"> <li>The paper will consist of two components. Component 1 will be questions that require written answers that relate to materials, manufacturing processes and industrial and commercial practices. Component 2 will involve candidates responding to a given design situation to produce a range of developed ideas.</li> </ul>	<ul style="list-style-type: none"> <li><b>Component 1</b> Candidates are required to answer <b>one</b> question from a choice of <b>eight</b>. The eight questions represent one of the focus areas: Built Environment and Construction Engineering Food Graphic Products Manufacturing Resistant Materials Textiles Systems and Control</li> <li>36 marks are allocated to this component, 24 from the generic core section that all candidates must study, 12 from the specific material focus.</li> <li><b>Component 2</b> Candidates are required to answer <b>one</b> question from a choice of <b>eight</b>. The eight questions each represent one of the focus areas.</li> <li>Candidates respond to a design situation in a material focus area. This material can be different from that chosen in component 1.</li> <li>New unit code F5524.</li> </ul>	<ul style="list-style-type: none"> <li>The paper is changing to include more material focus areas than previously so that all areas within a D &amp; T department would be able to follow the specification for other units with material option areas available for this paper.</li> </ul>	<ul style="list-style-type: none"> <li>Example papers and mark schemes.</li> <li>Resource lists.</li> </ul>
Systems and Control Technology 2	<b>2525</b> Optional 20% (A Level) Written paper	<ul style="list-style-type: none"> <li>This will not be a separate paper in the draft specification but will be integrated into the single Product Design paper.</li> </ul>	<ul style="list-style-type: none"> <li>Systems and Control will become one of the eight focus areas within the Product Design paper.</li> <li>New unit code F5524.</li> </ul>	<ul style="list-style-type: none"> <li>To integrate fully as the existing specification already contains common units.</li> </ul>	<ul style="list-style-type: none"> <li>Example papers and mark schemes.</li> <li>Resource lists.</li> </ul>

# New A Level Design and Technology: Product Design specification for first teaching September 2008

**H053 and H453 replacing 3822, 3823 and 7822, 7823**

Candidates must complete one unit at AS and one unit at A2



AS

AS

New unit title	New unit code	Benefits to me and my learners	Support
<b>Advanced innovation challenge</b>	<b>F521</b> Mandatory 40% (AS) 20% (A Level) Innovation Challenge including a written paper	<ul style="list-style-type: none"> <li>• A theme will be set in advance to enable candidates to research and put together a collection of useful, relevant resources. Session 1, undertaken over three hours, is sat at a time set by the Board. Candidates will respond to one of a series of challenges within this theme that can be attempted from different material backgrounds. A work book, linked to a teacher script, will be provided for candidates to present their work in. This will have sections that allow the challenge to be undertaken in a structured manner, helpful to the candidates. Ideas are developed and modelled and the challenge includes a presentation of initial ideas to a working group with opportunities to react to feedback.</li> <li>• Session 2, undertaken over three hours on the same day as session 1, requires the product to be further developed and modelled to a final idea which can then be evaluated. The outcome being a model allows products to be chosen and developed which might otherwise be impractical in centre workshop facilities and which can therefore be very different from the type of product that might be done as an individual project leading to a working prototype.</li> <li>• Session 3 is an examination paper that requires candidates to reflect on the product that they have designed in response to two specific questions. These questions will be drawn from a list of topics within the specification for this unit.</li> <li>• The real benefit of this unit is that candidates will be free to explore original ideas and demonstrate their creativity and innovative skills more readily than in a project constrained with the need to produce a working prototype. Innovation is the key in this unit as the name suggests. Centres also have the chance to alter time allocations suggested in the script to suit their own preferences provided that the total time allowed is not exceeded.</li> <li>• They will also be working under pressure for a set time and this reflects what happens in the real world.</li> </ul>	<ul style="list-style-type: none"> <li>• Web based support materials.</li> <li>• Pre-printed work booklet.</li> <li>• Teacher script for the challenge.</li> <li>• Fully structured challenge for sessions 1 and 2.</li> <li>• Exemplar material for the session 3. examination.</li> <li>• Training sessions.</li> </ul>
<b>Product Study</b>	<b>F522</b> Mandatory 60% (AS) 30% (A Level) Coursework	<ul style="list-style-type: none"> <li>• Candidates are required to select a single existing product where they can analyse its strengths and weaknesses with the aim of improving the product in some way. This is not a complete redesign of a product but the opportunity to develop or improve the product in some way. Because the outcome will be a model candidates can select a product that they are interested in but which they might not be able to manufacture to a working prototype under normal workshop conditions.</li> <li>• A feature of the product study is that design, development and modelling have been integrated into a single assessment criteria to enable designing to take place in real time with models used to aid development as well as to demonstrate the final idea. Candidates are also able to plan and implement their own choice of what is the most suitable method or system for testing and evaluating the outcome.</li> </ul>	<ul style="list-style-type: none"> <li>• Web based support materials.</li> <li>• Training sessions.</li> </ul>

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A2

New unit title	New unit code	Benefits to me and my learners	Support
Design Make and Evaluate	<b>F523</b> Mandatory 30% (A Level) Coursework	<ul style="list-style-type: none"> <li>Candidates are allowed to select a project of their own choosing to develop to a working prototype that can be tested and evaluated. This can be in any material or combination of materials. The key feature in this unit is the integration of development of ideas, modelling and making into a single criterion. This is an important benefit as it provides flexibility for the fair assessment of projects where the balance of designing, modelling and making may differ, depending on the materials or processes involved.</li> <li>The inclusion of a market presentation is another feature that candidates should relate to in the light of recent television programmes to enable them to consider commercial potential in a realistic way.</li> </ul>	<ul style="list-style-type: none"> <li>Web based support materials.</li> <li>Training sessions.</li> </ul>
Product Design 2	<b>F524</b> Mandatory 20% (A Level) Written work	<ul style="list-style-type: none"> <li><b>Component 1</b> This paper has a common core that is covered by each of the eight focus areas: Built Environment and Construction Engineering Food Graphic Products Manufacturing Resistant Materials Textiles Systems and Control</li> <li>One question is set on each of these focus areas and candidates choose one of these. Each question is marked out of 36 with 24 marks allocated to the common core and 12 to specific material technology. The common core will be addressed in each question in a manner appropriate to the focus material.</li> <li><b>Component 2</b> Eight questions are set to cover the eight focus areas above and candidates select one question where they are required to respond to a given design situation. Candidates answer on pre-printed A3 sheets. This paper is aimed at identifying those candidates who can use their experiences and knowledge in designing and making.</li> </ul>	<ul style="list-style-type: none"> <li>Training sessions.</li> </ul>