OCR
RECOGNISING ACHIEVEMENT

FINAL

Our Design and Technology GCSEs includes the following qualifications:
GCSE Design and Technology: Product Design
GCSE Design and Technology: Innovator Suite
which covers the following separate subjects:

- Electronics and Control Systems
- Food Technology
- Graphics
- Industrial Technology
- Resistant Materials
- Textiles Technology

GCSE
Design and Technology

The great thing about our improved Design and Technology GCSEs is that they bring a fresh approach to the subject, making them easier to teach and more enjoyable for learners.

The new
OCR GCSE
DESIGN AND
TECHNOLOGY

Contents

SEE THINGS DIFFERENTLY...

SEE THINGS DIFFERENTLY...

An introduction to GCSE Design and Technology: Product Design

An inspired and lively specification developed following a highly successful pilot. It incorporates a new and unique, motivational, innovative assessment: the Innovation Challenge providing your learners with the opportunity to show flair, imagination and creativity, in a range of activities which will motivate them and make it more enjoyable for you to teach.

Further benefits for you and your learners:

• The opportunity to teach the specification in either a unitised or linear fashion. Unitised assessments will be available from January 2010 and every January and June thereafter. For the benefits this will bring, please refer to flexible assessment on page 10.
• The opportunity to work with any materials giving your learners greater choice and making it more enjoyable for them to study.
• The option to study the subject as a GCSE short course offering you and your learners further flexibility.
• A unit focusing on iconic designers and products enabling you to stimulate the imagination of your learners.
• The option to upload e-portfolio evidence for external moderation of controlled assessments.
• The controlled assessment topics change every two years, which fits with OCR's ethos of providing up to date, fresh and motivating content, keeping you and your learners in the know.
• A full support package has been designed to save you preparation time and to increase your confidence in teaching and marking the new Product Design specification. You can find out more about our support package on page 11.
• Unit A552: the Designing and Making Innovation Challenge- the Innovation Challenge is a new and exciting type of assessment, focusing on learners' imagination, innovation and flair for designing and making. It requires learners to make quick decisions, take risks, be adventurous and use input from others, through controlled and structured peer evaluation.

Making GCSE changes easier

We want to make it as easy as possible for you to manage the changes to our GCSE Design and Technology: Product Design specification. To minimise disruption, we will:

• Guide you through the simple process of moving to OCR for teaching Design and Technology: Product Design.
• Provide a range of Design and Technology: Product Design support materials, including schemes of work and sample assessment materials.
• Make our Design and Technology: Product Design publisher resources – tailored to the new specification – available way ahead of when you start teaching the new specification.
• Keep you fully up to date, with our *Focus on 14–19* magazine, and online at www.GCSEchanges.com

We've involved teachers throughout the development process, so the new specification, support materials and schemes of work should provide everything you need to teach our GCSE Design and Technology: Product Design.

Course Summary for GCSE Design and Technology: Product Design

We've summarised the course details and the assessment objectives for GCSE Design and Technology: Product Design.

Unit title and description	Assessment and duration	Weighting (including short course weightings)
Unit A551: Developing and Applying Design Skills • Developing and writing a design brief. • Drawing up a specification. • Generating design proposals.	Internally assessed Controlled assessment 20 hours 90 marks	30% full course 60% short course
Unit A552: Designing and Making Innovation Challenge • 'Design and Making'– a practical examination that encourages flair, innovation and working with a range of modelling materials.	Externally assessed 6 hours, comprising two 3-hour sessions, plus 30 minutes of reflection time. 60 marks	20% full course 40% short course
Unit A553: Making, Testing and Marketing Products • Prototype manufacture. • Testing, evaluating and marketing.	Internally assessed Controlled assessment 20 hours 90 marks	30% full course
Unit A554: Designing Influences • Examination testing knowledge and understanding of the factors that influence designing, iconic products, trendsetters, design eras and design movements.	Externally assessed Written examination 1 hour 30 minutes 60 marks	20% full course

Short Course

Design and Technology: Product Design is also available as a GCSE short course, equivalent to half a GCSE. Benefits of a short course include:

• There are only two units to complete.
• Learners who are interested in Design and Technology: Product Design, but don't have time to study a full GCSE course, have more learning options.
• Learners can study a wider range of subjects.
• Timetabling for shorter courses may be easier for your centre.
• You can start teaching the short course in Year 9.
• Learners who enjoy the short course and want to carry on studying Product Design can simply complete units A553 and A554 to achieve a full GCSE.
• More able learners can complement their studies by taking the Design and Technology: Product Design short course as an additional subject.
• The Design and Technology: Product Design short course offers more flexibility – learners can study it over one or two years.

www.ocr.org.uk/productdesign/newgcse

What changes, and what stays the same?

While we've made some important changes and improved our GCSEs, we haven't changed everything. Here you can see which aspects of GCSE Design and Technology: Product Design are changing, and which will stay the same.

Following a successful pilot, GCSE Design and Technology: Product Design started teaching in September 2007. Since then, we've made some minor changes to comply with revised QCA criteria.

	What changes?	What stays the same?
Structure and Content	• Unit A554 now includes topics on sustainability, globalisation and the economics of manufacturing. • In Units A551 and A553, the marketing presentation audience can now include end-users and consumers.	• The course structure remains the same as the 2007 specification.

Assessment objectives

The assessment objectives are designed to reflect the non-statutory guidelines for Design and Technology. Learners are expected to demonstrate the following in the context of the content described:

AO1   • Recall, select and communicate their knowledge and understanding in design and technology, including its wider effects.

AO2   • Apply knowledge, understanding and skills in a variety of contexts and in designing and making products.

AO3   • Analyse and evaluate products, including their design and production.

www.ocr.org.uk/productdesign/newgcse

This Design and Technology: Innovator Suite offers an exciting and innovative array of specifications which consist of six Design and Technology GCSEs for the innovators of the future (Electronics and Control Systems, Food Technology, Graphics, Industrial Technology, Resistant Materials and Textiles Technology).

Further benefits for you and your learners:

- The opportunity to teach the specifications in either a unitised or linear fashion. Unitised assessments will be available from January 2010 and every January and June thereafter. For the benefits this will bring, please refer to flexible assessment on page 10.
- The option to study any of the six Design and Technology: Innovator Suite subjects as a GCSE short course, giving you greater flexibility in timetabling – and your learners more choice of subjects.
- An opportunity to teach two GCSE short courses from the Innovator Suite, covering different material biases enabling you to suit the learning style of your learners. Full Short Course benefits can be seen on page 7.
- An option to complete the full GCSE course – following a short course – by completing units 3 and 4 of the respective specification.
- A course unit dedicated to issues of sustainability in Design and Technology which encourages learners to recognise the contribution they make to the environment.
- The controlled assessment topics change every two years, which fits with OCR's ethos of providing up to date, fresh and motivating content, keeping you and your learners in the know.
- A full support package has been designed to save you preparation time and to increase your confidence in teaching and marking the controlled assessment. You can find out more about our support package on page 11.

Making GCSE changes easier

We want to make it as easy as possible for you to manage the changes to our GCSE Design and Technology: Innovator Suite specifications. To minimise disruption, we will:

- Guide you through the simple process of moving to OCR for teaching Design and Technology: Innovator Suite.
- Provide a range of Design and Technology: Innovator Suite support materials, including schemes of work and sample assessment materials.
- Make our Design and Technology: Innovator Suite publisher resources – tailored to the new specifications – available way ahead of when you first start teaching the new specifications.
- Keep you fully up to date, with our *Focus on 14–19* magazine, and online at www.GCSEchanges.com

We've involved teachers throughout the development process, so the new specifications, support materials and schemes of work should provide everything you need to teach our GCSE Design and Technology: Innovator Suite.

Course summary for GCSE Design and Technology: Innovator Suite

We've summarised the course details and the assessment objectives for GCSE Design and Technology: Innovator Suite

The following applies to all Innovator Suite subjects: Electronics and Control Systems, Food Technology, Graphics, Industrial Technology, Resistant Materials and Textiles Technology.

Unit title and description	Assessment and duration	Weighting (including short course weightings)
Unit 1: Introduction to Designing and Making • Developing research and investigation skills • Developing drawing skills • Modelling • Evaluating process.	Internally assessed Controlled assessment 20 hours 60 marks	30% full course 60% short course
Unit 2: Sustainable Design • Consideration of products • Consideration of the environment • Consideration of society and the economy.	Externally assessed Written examination 1 hour 60 marks	20% full course 40% short course
Unit 3: Making Quality Products • Designing for a need • Working with tools and equipment • Evaluating the product.	Internally assessed Controlled assessment 20 hours 60 marks	30% full course
Unit 4: Technical Aspects of Designing and Making • Working with tools and materials • Selecting processes • Designing for success.	Externally assessed Written examination 1 hour 15 minutes 60 marks	20% full course

Short Courses

All Design and Technology: Innovator Suite subjects are available as short courses, equivalent to half a GCSE. Benefits of a short course include:

• There are only two units to complete.
• Learners who are interested in Design and Technology: Innovator Suite courses, but don't have time to study a full course, have more learning options.
• Learners can study a wider range of subjects.
• Timetabling for shorter courses may be easier for your centre.
• More able learners can complement their studies by taking the Design and Technology: Innovator Suite short course as an additional subject.

• The short course offers more flexibility – learners can study it over one or two years.
• You can teach two GCSE short courses from the Innovator Suite, covering different material biases.
• You can start teaching the short course in Year 9.
• Learners who enjoy the short course and want to carry on studying the subject can simply complete units 3 and 4 of the specification to complete the full GCSE.
• Two short courses in Design and Technology may appeal to learners with a preference or aptitude for designing and making prototypes – topics covered in the first two units. This offers an alternative to designing and making a final product – topics covered in units 3 and 4 of the full GCSE.

What changes, and what stays the same?

While we've made some important changes and improved our GCSEs, we haven't changed everything. Here you can see which aspects of GCSE Design and Technology: Innovator Suite are changing, and which will stay the same.

The following applies to all Innovator Suite subjects: Electronics and Control Systems, Food Technology, Graphics, Industrial Technology, Resistant Materials and Textiles Technology.

	What changes?	What stays the same?
Structure and Content	• A unitised structure offering greater flexibility. • Removal of the tier system. • Emphasis on the environment and sustainability. • Greater use of creativity. • Now reflects the contemporary use of ICT. • Theme sheets will be provided for Units 1 and 3. • Opportunity to co-teach Unit 2. • The previous Electronics specification has now been incorporated into the new Electronics and Control Systems specification. • Content has been updated to reflect new materials and processes.	• Based on similar content, familiar to Design and Technology teachers.
Assessment	• January and June examination sessions available for all units, from January 2010. • Introduction of controlled assessment to replace coursework. • Introduction of e-portfolios.	• Internal assessment weighting of 60%.

Assessment objectives

The assessment objectives are designed to reflect the non-statutory guidelines for Design and Technology. Learners are expected to demonstrate the following in the context of the content described:

AO1 • Recall, select and communicate their knowledge and understanding in design and technology, including its wider effects.

AO2 • Apply knowledge, understanding and skills in a variety of contexts and in designing and making products.

AO3 • Analyse and evaluate products, including their design and production.

www.ocr.org.uk/innovatorsuite/newgcse

Controlled assessment – your questions answered

What is controlled assessment?

Controlled assessment is coursework in a supervised environment/classroom and will be replacing coursework from September 2009 for GCSEs. This has been introduced by QCA, to address some of the issues raised in coursework reviews, such as plagiarism.

What are the benefits of controlled assessment?

The benefits of controlled assessment include:

- More straightforward marking – for most subjects, learners are provided with worksheets to submit their work on
- Improved reliability and validity
- Varying levels of control – you will know at the start of the course what is required to help you manage the assessments and your time more easily
- Greater confidence in authenticating learners' work as their own
- Greater ease in fitting assessments into your normal teaching programmes.

How will controlled assessment be introduced?

Controlled assessment is embedded in the specification and will be introduced when the specification becomes available for teaching in September 2009.

How will it affect my workload?

With the introduction of a new qualification and a new model of assessment (controlled assessment) it is possible that some additional work will be required in the first year of teaching until you get used to the new way of working.

Will it affect timetabling and curriculum planning?

This will vary from centre to centre. For example, if you are retaining a linear model then all you need to do is to ensure that the learners have completed all units (full course) by the end of the course. Following a unitised approach may allow a more flexible approach to assessment.

Who will set the tasks of the controlled assessment for Design and Technology and will I still need to mark it?

- **Task setting** – learners choose from a range of controlled assessment tasks. These will be reviewed every two years.
- **Task taking** – for every specification, your centre will have clear guidance on authenticity, feedback, time and collaboration control, and access to resources.
- **Task marking** – all controlled assessment units will be assessed internally and moderated externally. Centres can post portfolio or electronic evidence on CD-ROM to us for moderation, or upload digital portfolio evidence to the OCR Repository, our secure website designed exclusively for this purpose.

How long do I need to keep the controlled assessment for?

This will be governed by the Awarding Bodies Joint Council for Qualifications' (JCQ) regulations when they are published, please visit www.jcq.org.uk for more information. It is expected that learners' work will need to be kept until all possible post results services have been exhausted.

When can controlled assessment start - in Year 9, 10 or 11?

For Design and Technology the first opportunity to enter learners for controlled assessment is for the January 2010 session and thereafter January and June of each year. It is for centres to decide when they enter learners. Controlled assessment is in Unit 1 and again in Unit 3, these would normally be taken in year 9 or 10 for Unit 1 and Year 10 or 11 for Unit 3 but the choice is yours. If you are delivering the course in a linear fashion then all controlled assessments are at the end of the course.

Can I still teach a short course over two years?

Yes. Controlled assessment can only take place for the years that the Awarding Body sets the tasks and the tasks cannot be carried over to subsequent years.

When can learners start researching for the controlled assessment and do they need to keep their notes?

Tasks will be made available on 'Interchange', our free secure website, from June of the previous year of assessment to May of the year of assessment. The time when you pass the tasks on to your learners is for you to manage in whatever way suits you and your learners.

Learners should keep their notes to help them as preparation for controlled assessment. The notes will not be required for moderation.

Can we submit learners for exams in any exam session now?

Yes, but you need to be aware of the 40% terminal assessment rule, which is detailed in the specification.

If learners are entered for re-sits, which marks are considered? Latest or highest?

Learners can re-sit each unit once and can count the highest mark.

www.ocr.org.uk/newgcse

Flexible assessment

Assessment for the new GCSEs in Design and Technology has been organised into units, which can be taken at the end of the course in typical linear fashion, or used to complement a more unitised approach to teaching and learning.

This means you can have the flexibility to choose the assessment approach best suited to your centre, and your learners. A unitised structure also gives you the flexibility to teach short and full courses at the same time.

Flexible assessment means:

• You have a choice of learning approach – linear or unitised.
• You can now schedule assessments for times during the course when learners' understanding is at its best – giving them a better chance of success.
• Learners can re-sit a unit, rather than repeat the entire assessment.
• Learners can receive ongoing feedback, which many find motivating, as it helps them identify their own learning needs and achieve more.
• Learners find it easier to stay on track with their studies and manage their time more effectively with a unitised approach.
• There's less pressure on your learners – the 'all or nothing' approach to assessment has been removed.
• Exam stress is reduced – assessments are spread out, instead of grouped together in a short, intense examination period at the end of the course.
• With a similar format to A Levels and Diplomas, GCSEs will help prepare learners for the next phase of their education.

To ensure that the assessment supports the coherence of the GCSEs and there is no over-assessment, QCA has put two rules in place:
• A minimum of 40% of the assessment must take place at the end of the course.
• Only one re-sit of each assessment unit is allowed. The better result then counts towards the qualification.

www.ocr.org.uk/newgcse

Support for GCSE Design and Technology teachers

We offer a range of Design and Technology support materials, developed through extensive research and consultation with teachers. They're designed to save you time while you're preparing for the new specifications, and to support you while teaching them.

Our Design and Technology support materials and events include:

- **FREE** INSET training sessions
- Schemes of work that you can customise
- Endorsed publisher partner resources
- Access to teacher and examiner networks both online and in print
- An extensive past-papers service
- Lesson plans
- Posters and card visuals
- Teacher planner.

Our online resources include:

- 'Interchange' – a completely secure, free website that helps you and your exams officer with administrative tasks at examination time
- Past examination papers
- Mark schemes
- Subject e-alerts – for you to register for updates.

For more information on our support, visit www.ocr.org.uk

www.ocr.org.uk/newgcse
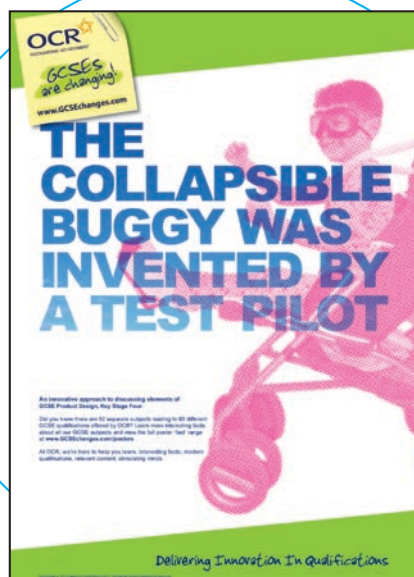
INSET Training

Our **FREE** Design and Technology *Get Ready* and *Get Started* events give you a taste of the new specifications direct from the experts. For details of the courses and dates near you and to book your **FREE** place, visit www.ocr.org.uk/training

Get Ready – introducing the new specifications

This course will help you find out more about the new Design and Technology specifications, whether you are a new or experienced teacher. It's open to you, even if you don't teach the current specifications.

It's a **FREE** half-day session, with refreshments and a light buffet. You'll receive a selection of course materials and an overview of our new specifications for GCSE Design and Technology. There are separate courses for Design and Technology: Product Design and Design and Technology Innovator Suite subjects: Electronics and Control Systems, Food Technology, Graphics, Industrial Technology, Resistant Materials and Textiles Technology.

The session includes:
• A look at the new structure, content and assessment methods
    • A comparison between the old and new specification content
        • An introduction to the support and resources available from us
          • A summary of the benefits of choosing our new GCSE Design and Technology specifications.

SEE THINGS DIFFERENTLY...

SEE THINGS DIFFERENTLY...

INSET Training

Get Started –
towards successful delivery of the new specifications

This course will help you, whether you are a new or experienced teacher or a centre assessor who will be teaching these Design and Technology specifications.

It's a full-day course which will provide essential information, guidance and practical support for newly qualified teachers or teachers new to the OCR GCSEs in Design and Technology. There are separate courses for Design and Technology: Product Design and Design and Technology Innovator Suite subjects: Electronics and Control Systems, Food Technology, Graphics, Industrial Technology, Resistant Materials and Textiles Technology. It will:

It will:
• Explain the requirements of the specifications
• Review the assessment criteria and their application
• Explain the requirements of the assessment process
• Review the Chief Examiner's report from the 2008 session
• Consider the collation of appropriate evidence for portfolio building
• Discuss the presentation of learner portfolios
• Review exemplar candidate work
• Offer advice on preparing learners for external assessments
• Explain the administrative procedures.

www.ocr.org.uk/newgcse

Publisher support

We endorse a range of publisher materials to provide quality support for centres delivering our qualifications. You can be confident that materials branded with OCR's 'Official Publishing Partner' or 'Approved publication' logos have undergone a thorough quality assurance process to achieve endorsement.

These endorsements do not mean that the materials are the only suitable resources available or necessary to achieve one of our qualifications. Any resource lists which are produced by us will include a range of appropriate texts.

For our Design and Technology GCSEs we're working with publisher partner Hodder Education to provide further resources to support your teaching of the new specifications.

Hodder Education will publish learner and teacher resources for all our GCSE Design and Technology specifications – written by senior examiners and experienced teachers, in a clear and accessible style.

Resource	Format	Samples available from	ISBN No.
OCR Electronics and Control Systems for GCSE Student's Book	Paperback	September 2008	978 0340 98201 3
OCR Graphics for GCSE Student's Book	Paperback	September 2008	978 0340 98198 6
OCR Industrial Technology for GCSE Student's Book	Paperback	September 2008	978 0340 98202 0
OCR Resistant Materials for GCSE Student's Book	Paperback	September 2008	978 0340 98196 2
OCR Textiles Technology for GCSE Student's Book	Paperback	September 2008	978 0340 98199 3
OCR Food Technology for GCSE Student's Book	Paperback	September 2008	978 0340 98197 9
OCR Product Design for GCSE Student's Book	Paperback	September 2008	978 0340 98200 6
OCR Design and Technology for GCSE Dynamic Learning Network Edition CD-ROM	CD-ROM	Spring 2009	978 0340 98203 7

For the latest information on published resources, please visit:
www.ocr.org.uk/newgcse choose your subject and select 'published resources' from the right-hand menu.

www.ocr.org.uk/newgcse

Why choose OCR?

Who is OCR?
We're one of the UK's leading Awarding Bodies, developing up-to-date GCSE qualifications for the 21st century.

Why teach OCR specifications?

At OCR, we believe in developing specifications that help you bring the subject to life, so learners are more likely to get involved and achieve more. And because we listen to schools and colleges that teach our specifications, we can improve and update qualifications continually, ensuring you and your learners get as much as possible from the qualification.

You'll receive full support when teaching our qualifications. We're offering more free training than ever before at venues near you – plus adaptable schemes of work you can download, and lesson plans drawn up by teachers who teach the specification.

You'll also have access to cluster support networks, where there are plenty of opportunities to give feedback and share your thoughts with other teachers.

Other qualifications

You may be interested to know about some of our other Design and Technology related qualifications:
• A Level Design and Technology: Product Design, which incorporates an Advanced Innovation Challenge
• GCSE Home Economics: Food and Nutrition
• GCSE Engineering
• GCSE Manufacturing
• OCR Diploma in Engineering - Levels 1, 2 and 3 (from September 2008)
• OCR Diploma in Manufacturing and Product Design - Levels 1, 2, and 3 (from September 2009)
• OCR Nationals in Art and Design - Levels 2 and 3
• Entry Level Design and Technology: Food Technology
• Entry Level Design and Technology: Graphic Products
• Entry Level Design and Technology: Resistant Materials Technology
• Entry Level Design and Technology: Textiles Technology.

www.ocr.org.uk/newgcse