OCR
RECOGNISING ACHIEVEMENT

teacher's handbook

Textiles Technology

Industrial Technology

Graphics

Resistant Materials

Food Technology

Electronics & Control Systems

GCSE
Design and Technology: Graphics

J303 – Full Course
J043 – Short Course

This handbook is designed to accompany the OCR GCSE Design and Technology: Graphics specification for teaching from September 2009. This booklet contains the following support materials:

Subject specific guidance

Resource list

Publisher partner resources

Frequently asked questions

Other forms of support.

OCR GCSE
DESIGN AND TECHNOLOGY

www.ocr.org.uk/graphics/newgcse
www.ocr.org.uk/graphics/newgcsesc
www.ocr.org.uk/innovatorsuite/newgcse

Contents

Introduction

OCR is offering new GCSEs for first teaching in September 2009.

We've taken this opportunity to improve the quality of our GCSEs for teachers and students alike.

We've made improvements in three key areas : updated and relevant content, a focus on developing students personal, learning and thinking skills, and flexible assessment, so you can choose the best learning approach for the job.

We want to make the introduction of these new GCSEs as easy for you to manage as possible.

The main changes are :

- Controlled assessment will be introduced for most subjects

- The opportunity will be taken to bring course content up to date

- Examinations should provide opportunity for extended writing and more varied question types

- All GCSEs will meet the requirements of the Disability Discrimination Act.

Our approach is to provide consistency across all our GCSEs by offering the flexibility that unitised qualifications bring, allowing teaching and assessment to be either a linear or unitised fashion.

OCR offers a range of support materials, developed following extensive research and consultation with teachers. We've designed them to save you time when preparing for the new specification and to support you while teaching them.

It is important to make the point that this Teachers' Handbook plays a secondary role to the specifications themselves. The GCSE Design and Technology: Graphics specification is the document on which assessment is based: it specifies what content and skills need to be covered. At all times therefore, the Teachers' Handbook should be read in conjunction with the Specification. If clarification on a particular point is sought, then that clarification must be found in the Specification itself.

Subject specific guidance

This document is designed to support delivery of GCSE Design and Technology: Graphics (J303) and GCSE (Short course) Design and Technology: Graphics (J043). We hope you will find it useful in planning your delivery and assessment opportunities.

There are four units available for Design and Technology: Graphics. They are:

- Unit A531: Introduction to designing and making

- Unit A532: Sustainable design

- Unit A533: Making quality products

- Unit A534: Technical aspects of designing and making

GCSE candidates must take all four units (in any order) whilst short course candidates can only take units A531 and A532 (in any order).

These documents do not seek to prescribe how the subject should be delivered. They merely seek to show the breadth and range of learning opportunities within this subject area. We hope centres will use these as a starting point for developing inspiring and innovative courses that meet the needs of their students.

Unit A532: Sustainable design

This unit aims to develop a candidate's knowledge and understanding of sustainability, environmental concerns, cultural, moral and social issues. Candidates will look at how Design and Technology has evolved through examination of the products from the past and present. Candidates need to consider how future designs will impact on the world in which we live. They will need to study examples of both old and new products in order that they gain awareness and understanding of recent trends and innovations in design and production, labelling, packaging and the impact that the design of such products is having on the environment, society and the economy.

Candidates will need to consider how future designs/ products will impact on the world in which we live. By looking at old and new products candidates will gain awareness and understanding of trends and innovations in design and manufacture, labeling, packaging and the impact that the design of such products is having on the environment, society and the economy.

Moral, cultural, economic, environmental and sustainability issues are inherent in design and technology.

Through this unit candidates will be able to answer some of the following questions:

- What is meant by a 'product life cycle'?

- Why were certain materials chosen and used?

- What is meant by planned obsolescence?

- What do we mean by the 6 R's?

- What can we do to ensure eventual disposal of products/ materials is as eco friendly as possible?

These are just some of the key questions that you should be able to answer.

The assessment of this unit is through an externally set and marked test:

- This assessment unit can be taken in either January or June examination session.

- It represents 20% of a full GCSE qualification or 10% of a short course qualification.

- The maximum mark for the unit is 60.

- The duration of the examination is 1 hour and the paper is divided into two sections.

- **Section A** consists of fifteen questions covering generic issues associated with sustainability, society, the economy and the environment.

- **Section B** consists of three questions which will require you to relate your knowledge and understanding of the '6R's', materials, processes and the design of products.

Unit A534: Technical aspects of designing and making

Introduction to the Unit A534 assessment

The unit A534 examination is a 1 hour 15 minutes examination worth 20% of the GCSE full course marks. It is externally marked and is intended to be taken at the end of a two year course.

The paper consists of five questions that focus on the technical aspects of designing and making in Graphics.

Section A

Section A consists of three questions based on aspects of working with tools and equipment.

Section B

Section B has two questions on design with particular emphasis on sustainability and how products meet the needs people. One of these questions will be design based.

Each question starts with easy parts and they get progressively more difficult. Two of the questions will be marked with asterisk (*). It will be marked on the quality of written communication called banded marking.

Assessment of this unit

This unit is assessed by an externally set and marked test that is available in January and June. The test is 75 minutes in length and is divided into sections A and section B. Section A consists of three questions based on the technical aspects of working with ingredients and equipment. Section B consists of two questions on the design of products reflecting the wider aspects of sustainability and human use. One of these questions will require a design response.

Candidates will need a knowledge and understanding of:

- Designing and making quality manufactured products

- Planning production with consideration of the use of time and resources

- Performance characteristics of different materials including 'Smart' and modern

- Tools and equipment, including new technologies, used to make quality manufactured products

- Processes and techniques used to make quality manufactured products, both decorative and functional

- The impact that the use of graphic products has on the environment, including the need to consider sustainability

- Health and Safety issues.

Resources

Unit A531: Introduction to designing and making

Graphic Products to GCSE	ISBN 0-19-832789-7	Abigail and Philip Buckle
Working with materials	ISBN 0-00-327351-2	Chapman and Finney
Graphics	ISBN 0-528-23468-9	
Design and make it	ISBN 0-7487-2474-5	Shepherd
Presentation techniques	ISBN 0-316-91243-3	Powell
The essentials of GCSE D&T	ISBN 0-1-903068-46-0	Eason
Special Packaging Designs (Agile Rabbit Editions)	ISBN 978-9057680540	The Pepin Press
Mail it (Agile Rabbit Editions)	ISBN 978-9057680533	Pepin Van Roojen
Structural Package Designs (Agile Rabbit Editions)	ISBN 978-9057680441	The Pepin Press
Folding Patterns for display and publicity (Agile Rabbit Editions)	ISBN 978-9057680403	The Pepin Press
Paper Engineering for pop-up books and cards	ISBN 978-0906212493	Mark Hiner
Pop-Up: Manual of Paper Mechanisms	ISBN 978-1899618095	Duncan Birmingham
The Packaging Designers Book of Patterns	ISBN 978-0471731108	Laszlo Roth and George Wybenga

www.designandtech.com

www.designandtech.co.uk

www.technologystudent.com

www.design-technology.info

www.dtonline.org

www.techsoftuk.co.uk

www.xara.com/uk/

www.adobe.com

Unit A532: Sustainable design

Books

Graphic Products to GCSE	ISBN 0-19-832789-7	Abigail and Philip Buckle
Working with materials	ISBN 0-00-327351-2	Chapman and Finney
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Presentation techniques	ISBN 0-316-91243-3	Powell
The essentials of GCSE D&T	ISBN 0-1-903068-46-0	Eason

http://www.carbonfootprint.com

http://www.ecofriendlykids.co.uk

http://www.recycle-more.co.uk

Unit A533: Making quality products

Graphic Products to GCSE	ISBN 0-19-832789-7	Abigail and Philip Buckle
Working with materials	ISBN 0-00-327351-2	Chapman and Finney
Graphics	ISBN 0-528-23468-9	
Design and make it	ISBN 0-7487-2474-5	Shepherd
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Structural Package Designs (Agile Rabbit Editions)	ISBN 978-9057680441	The Pepin Press
Folding Patterns for display and publicity (Agile Rabbit Editions)	ISBN 978-9057680403	The Pepin Press
Paper Engineering for pop-up books and cards	ISBN 978-0906212493	Mark Hiner
Pop-Up: Manual of Paper Mechanisms	ISBN 978-1899618095	Duncan Birmingham
The Packaging Designers Book of Patterns	ISBN 978-0471731108	Laszlo Roth and George Wybenga

Unit A534: Technical aspects of designing and making

Books

Graphic Products to GCSE	ISBN 0-19-832789-7	Abigail and Philip Buckle
Working with materials	ISBN 0-00-327351-2	Chapman and Finney
Design and make it	ISBN 0-7487-2474-5	Shepherd
Presentation techniques	ISBN 0-316-91243-3	Powell
The essentials of GCSE D&T	ISBN 0-1-903068-46-0	Eason

Other forms of Support

In order to help you implement the new GCSE Design and Technology: Graphics Specification effectively, OCR offers a comprehensive package of support. This includes:

Published Resources

OCR offers centres a wealth of quality published support with a fantastic choice of 'Official Publisher Partner' and 'Approved Publication' resources, all endorsed by OCR for use with OCR specifications.

Publisher partners

OCR works in close collaboration with three Publisher Partners; Hodder Education, Heinemann and Oxford University Press (OUP) to ensure centres have access to:

- Better published support, available when you need it, tailored to OCR specifications

- Quality resources produced in consultation with OCR subject teams, which are linked to OCR's teacher support materials

- More resources for specifications with lower candidate entries

- Materials that are subject to a thorough quality assurance process to achieve endorsement

Hodder Education is the publisher partner for OCR GCSE Design and Technology : Graphics.

Hodder Education is producing the following resources for OCR GCSE Design and Technology : Graphics for first teaching in September 2009, which will be available in Spring 2009.

OCR Graphics for GCSE Student's Book
Paul Brannlund, Kevin Crampton, John Rolfe, Editor: Bob White
ISBN: 978 0340 98198 6
Published:24/04/2009

OCR Design and Technology for GCSE Dynamic Learning Network Edition CD-ROM
ISBN: 978 0340 98203 7
(Available April 2009)

Approved publications

OCR still endorses other publisher materials, which undergo a thorough quality assurance process to achieve endorsement.   By offering a choice of endorsed materials, centres can be assured of quality support for all OCR qualifications.

Endorsement

OCR endorses a range of publisher materials to provide quality support for centres delivering its 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. All responsibility for the content of the publisher's materials rests with the publisher.

These endorsements do not mean that the materials are the only suitable resources available or necessary to achieve an OCR qualification. Any resource lists which are produced by OCR shall include a range of appropriate texts.

OCR Training

 A full range of training events provide valuable support, for the delivery and assessment of OCR qualifications:

Get Ready…

  An overview of new OCR specifications

Get Started…

For teachers preparing to deliver or already delivering OCR specifications

Get Ahead…

For teachers wanting to improve delivery and assessment of a current OCR specification

Lead the way…

To encourage creativity and innovation

View up-to-date event details and make online bookings at www.ocreventbooker.org.uk or view our new training e-books at www.ocr.org.uk/training. If you are unable to find what you are looking for contact us by e-mail training@ocr.org.uk or telephone 02476 496398.

e-Communities

Over 70 e-Communities offer you a fast, dynamic communication channel to make contact with other subject specialists. Our online mailing list covers a wide range of subjects and enables you to share knowledge and views via email.

Visit https://community.ocr.org.uk, choose your community and join the discussion!

Interchange

OCR Interchange has been developed to help you to carry out day to day administration functions online, quickly and easily. The site allows you to register and enter candidates online. In addition, you can gain immediate a free access to candidate information at you convenience. Sign up at https://interchange.ocr.org.uk

Frequently Asked Questions

Unit A531: Introduction to designing and making

Is this a compulsory unit?

This unit is compulsory for a GCSE in Design and Technology: Graphics (J303). It is also one of two units that must be studied for a GCSE (Short course) in Design and Technology: Graphics (J043).

What is this unit worth?

This unit is worth 30% of the GCSE in Design and Technology: Graphics (J303) qualification and 60% of the GCSE (Short course) in Design and Technology: Graphics (J043)

What is the entry code for this unit?

The entry code for this unit is A531.

Does the final outcome have to be a three dimensional graphic product?

No. The outcome can be:

- a two dimensional outcome

- a three dimensional outcome

Can students produce designs on a computer?

Yes. It is expected that candidates will use computer based methods and traditional hand skills to generate design proposals.

How is this unit assessed?

This unit is internally marked and externally moderated. Teachers should use the published marking criteria for Unit A531.

Is this unit assessed by a visiting moderator?

No. Candidates are required to take a minimum of two clear photographs of the product, which must be included in the design folder. The moderator will then request a sample of folders. There is no moderation visit.

Will candidates be able to re-sit the unit?

Yes. Candidates may re-sit this unit once before entering for certification for a GCSE or GCSE (Short course).

Is there a text book for this unit?

Yes. The recommended text book is GCSE Design and Technology: Graphics published by Hodder. This book covers all four units of the GCSE in Design and Technology: Graphics (J303) qualification and the two units required for a GCSE (Short course) in Design and Technology: Graphics (J043).

Is there training available for this unit?

Yes. OCR provide a full programme of training for Design and Technology: Graphics (J303 and J043). Details are available on the OCR website.

Unit A532: Sustainable design

Is this a compulsory unit?

This unit is compulsory for a GCSE in Design and Technology: Graphics (J303). It is also one of two units that must be studied for a GCSE (Short course) in Design and Technology: Graphics (J043).

What is this unit worth?

This unit is worth 20% of the GCSE in Design and Technology: Graphics (J303) qualification and 40% of the GCSE (Short course) in Design and Technology: Graphics (J043) qualification.

What is the entry code for this unit?

The entry code for this unit is A532.

How is this unit assessed?

This unit is assessed by a 60 minute written test. The test is externally set and marked.

What is the structure of the test?

The test is divided into sections A and B. Section A consists of fifteen short answer questions. Section B consists of three questions requiring answers that may involve sketching, annotation, short sentences or more extended writing. Each of the section B questions is worth 15 marks.

Is the test tiered?

No. All candidates take the same test.

How many times can the test be taken?

This test can be taken twice, with the highest score counting towards the qualification.

Will candidates need a drawing board for the test?

No. The test can be taken at a normal examination table. Candidates should have writing equipment and basic drawing equipment such as a pencil, eraser, ruler and compass.

How should this unit be delivered?

This unit should be delivered through a number of mini-tasks. These tasks will vary in nature, some will be based around group discussion, others will involve the candidate working with ideas and media, researching concepts and recording information. Activities may also involve visits to particular Technology Innovation centres, industry, local councils, museums, etc. Evidence should be collected and recorded (not assessed) and can be used in preparation for the end of unit test.

Are exemplar test questions available?

Yes. Exemplar questions are available on the OCR website and past test papers will also be made available on the website.

Is there a text book for this unit?

Yes. The recommended text book is GCSE Design and Technology: Graphics published by Hodder. This book covers all four units of the GCSE in Design and Technology: Graphics (J303) qualification and the two units required for a GCSE (Short course) in Design and Technology: Graphics (J043).

Is there training available for this unit?

Yes. OCR provide a full programme of training for Design and Technology: Graphics (J303 and J043). Details are available on the OCR website.

Unit A533: Making quality products

Is this a compulsory unit?

This unit is compulsory for a GCSE in Design and Technology: Graphics (J303). It **cannot** be taken as part of the GCSE (Short course) in Design and Technology: Graphics (J043).

What is this unit worth?

This unit is worth 30% of the GCSE in Design and Technology: Graphics (J303) qualification.

What is the entry code for this unit?

The entry code for this unit is A533.

How is this unit assessed?

This unit is assessed by a 20 hour controlled assessment task.

Does the final outcome have to be a three dimensional graphic product?

No. It can be:

- a two dimensional outcome

- a three dimensional outcome

Can students produce designs on a computer?

Yes. It is expected that candidates will use computer based methods and traditional hand skills to generate design proposals.

Is this unit assessed by a visiting moderator?

No. Candidates are required to take a minimum of two clear photographs of the product, which must be included in the design folder. The moderator will then request a sample of folders. There is no moderation visit.

Unit A534: Technical aspects of designing and making

Is this a compulsory unit?

This unit is compulsory for a GCSE in Design and Technology: Graphics (J303). It **cannot** be taken as part of the GCSE (Short course) in Design and Technology: Graphics (J043).

What is this unit worth?

This unit is worth 20% of the GCSE in Design and Technology: Graphics (J303) qualification.

What is the entry code for this unit?

The entry code for this unit is A534.

How is this unit assessed?

This unit is assessed by a 75 minute test. The test is externally set and marked.

What is the structure of the test?

The test is divided into sections A and B. Section A consists of three questions based on the technical aspects of working with materials, tools and equipment. Section B consists of two questions on the design of products reflecting the wider aspects of sustainability and human use. One of these questions will require a design response. Each of the five questions is worth 12 marks.

Is the test tiered?

No. All candidates take the same test.

How many times can the test be taken?

This test can be taken twice, with the highest score counting towards the qualification.

Will candidates need a drawing board for the test?

No. The test can be taken at a normal examination table. Candidates should have writing equipment and basic drawing equipment such as a pencil, eraser, ruler and compass.

How should this unit be delivered?

Candidates should develop there knowledge and understanding through focused practical tasks and design and make assignments. Evidence should be collected and recorded (not assessed) and can be used in preparation for the end of unit test.

Are exemplar test questions available?

Yes. Exemplar questions are available on the OCR website and past test papers will also be made available on the website.

Is there a text book for this unit?

Yes. The recommended text book is GCSE Design and Technology: Graphics published by Hodder. This book covers all four units of the GCSE in Design and Technology: Graphics (J303) qualification.

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