

AS and A level

# Design and Technology (Product Design)

Inspiring innovative design

Discover our new qualifications for 2017










## Edexcel AS and A level Design and Technology 2017

This guide provides an overview of the specifications and assessments for our new Edexcel AS and A level Design and Technology (Product Design) qualifications.

We'll address how we have used curriculum change to redesign qualifications that reflect the demands of a truly modern and evolving society. We'll also outline the high quality support you can expect from us.

-  Equipping students with design skills for the future.....**page 4**
-  Encourages creativity and innovation.....**page 5**
-  Clear routes through the specification.....**page 6**
-  A smooth transition from GCSE.....**page 7**
-  Support with new content.....**page 8**

### Working with you

We've worked with teachers, subject associations and universities to ensure that our Edexcel AS and A level Design and Technology (Product Design) specifications have been shaped by you, for your students, to help them get the most out of the course.







### Next steps...

Read through this guide, then turn to the back page for details of how to sign up to teach our new qualifications and get specification updates, free support and event invitations.

## Qualifications at a glance

Our Edexcel specifications have been designed to be co-teachable across AS and A level to help you manage content, teaching time and resources effectively.

All topics are taught at A level with a subset of these at AS. The AS non-examined assessment (NEA) contextual challenge can be used as a practical exercise by A level students.

Component	Overview	Assessment
<b>Edexcel A level Design and Technology 2017 (Product Design)</b>		
<b>Component 1</b> 50% of qualification	<b>Principles of Design and Technology</b> Topics 1-12: 1: Materials 2: Performance characteristics of materials 3: Processes and techniques 4: Digital technologies 5: Factors influencing the development of products 6: Effects of technological developments 7: Potential hazards and risk assessment 8: Features of manufacturing industries 9: Designing for maintenance and the cleaner environment 10: Current legislation 11: Information handling, Modelling and forward planning 12: Further processes and techniques.	Written examination.  Exam 2hrs 30 mins  120 marks  The paper includes calculations, short-open and open-response questions as well as extended-writing questions.
<b>Component 2</b> 50% of qualification	<b>Independent Design and Make Project</b> Students will produce a substantial design, make and evaluate project which consists of a portfolio and a prototype.  There are four parts to the assessment covering the identification of a design problem, developing the design, making the prototype and evaluating both the design and the final prototype.	Non-examined assessment.  120 marks  The investigation report is internally assessed and externally moderated.
<b>Edexcel AS Design and Technology 2017 (Product Design)</b>		
<b>Component 1</b> 50% of qualification	<b>Principles of Design and Technology</b> Topics 1-7 are common topics to both AS and A level. 1: Materials 2: Performance characteristics of materials 3: Processes and techniques 4: Digital technologies 5: Factors influencing the development of products 6: Effects of technological developments 7: Potential hazards and risk assessment.	Written examination.  Exam 2hrs   100 marks  The paper includes calculations, short-open and open-response questions as well as extended-writing questions.
<b>Component 2</b> 50% of qualification	<b>Independent Design and Make Project</b> Students to undertake a small-scale design, make and evaluate project in response to a realistic contextual challenge set by Pearson, taking into account the needs and wants of the user. The project consists of a portfolio and a prototype.  There are four parts to the assessment covering identification of opportunities for design, designing a prototype, making a prototype and evaluating own design and prototype.	Non-examined assessment.  100 marks  The investigation report is internally assessed and externally moderated.

## Equipping students with design skills for the future

Our modern specifications will help students to recognise design needs and develop an understanding of how global issues and the latest technologies have an impact on the world around them.

Students will:

- ✎ learn and apply key design skills that prepare them for the modern world
- ✎ build confidence to take design risks through the encouragement of innovation and creativity
- ✎ develop an understanding of new and emerging technologies.

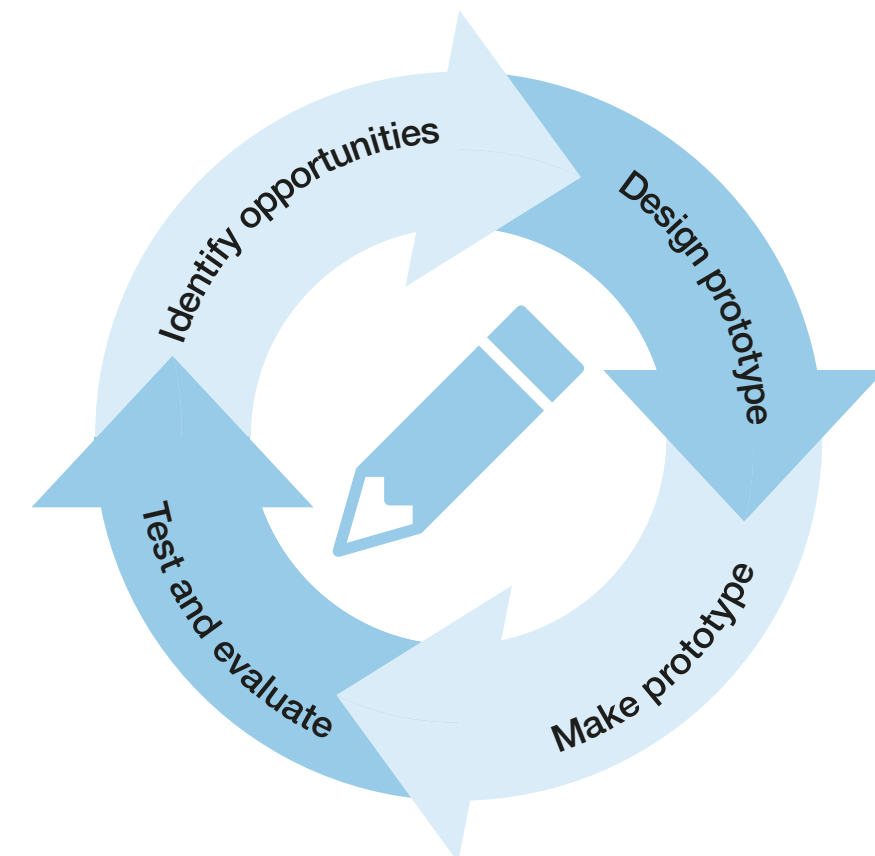
***“Design is not what it looks like.  
Design is how it works.”***

Steve Jobs  
former Co-founder,  
Chairman and CEO of Apple Inc.

## Encourages creativity and innovation

Our contextual challenges at AS will give students the freedom to take design risks and innovate in a situation where it is safe to test and refine ideas. This then gives them the confidence at A level to develop these skills further in their own design brief with a client or end user.

Students will be taken through a cycle of iterative design to put the theory they learn along the way into practice on a real design, make and evaluate project. In AS, this is a contextual challenge set by us, but at A level students are encouraged to independently identify a real world design problem to solve.



## Clear routes through the specification

We spoke to lots of teachers, and your main concerns were demystifying the new rules around the qualification requirements to make sure you know precisely what you have to teach.

### Do we need to change resources or equipment?

No, you can continue to work in the areas your students enjoy.

### My students love the Graphics element, will that still be there?

Yes, we offer clear options for the popular Graphics and Resistant Materials Technology (RMT) elements, whilst allowing students to work in all materials in the subject content.

### What kinds of mathematics and science are included?

A contextual grasp of mathematics (such as calculating surface areas and using trigonometry) as well as scientific principles (including Newton's laws of motion) are fully integrated to support students in becoming better designers.

### Are the new qualifications more 'academic' than they were previously?

We know that design and technology students like to make things, so despite the government reduction in NEA weighting, we continue to retain a focus on iterative design and build, fully integrating academic content to appear within a familiar design and technology context to engage students.

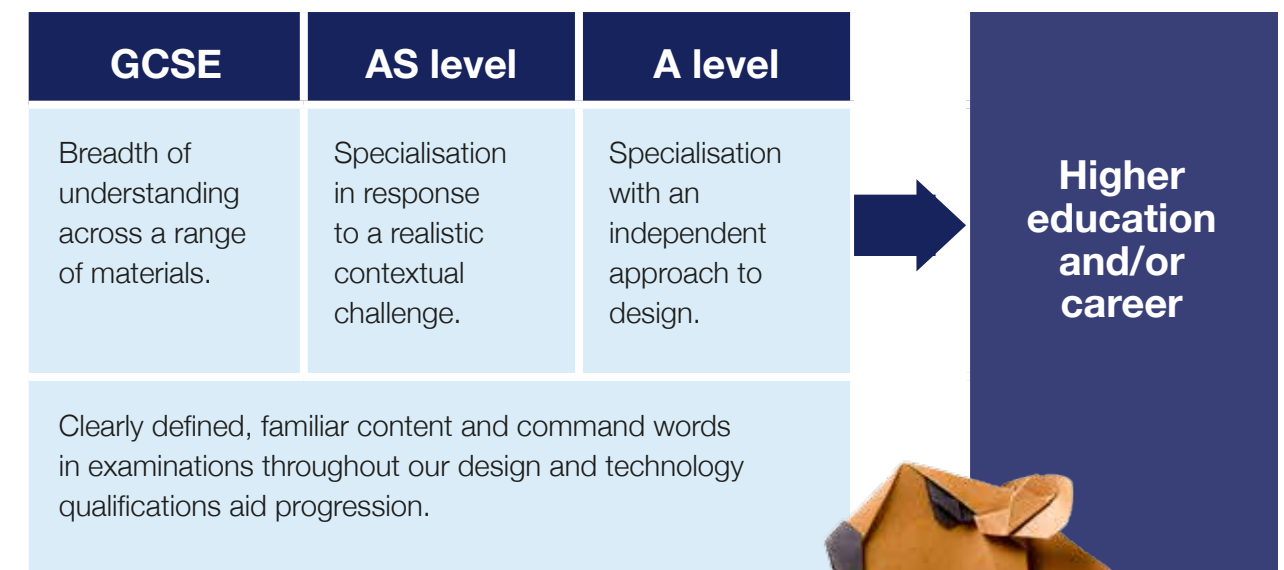
For more in depth information, our draft specifications are available online at [quals.pearson.com/aleveldt17](https://quals.pearson.com/aleveldt17)

## A smooth transition from GCSE

Our AS and A levels are designed to smooth the transition from GCSE right up to higher education and/or a career.

Our qualifications are designed to fit together with a clearly defined progression of knowledge, understanding and design/making skills from the breadth of the GCSE to the specialised depth of A level.

You can co-teach AS and A level in year one, adding in the additional content for A level in year two. The AS level non-examined assessment is the ideal time to test making skills before A level.



# Support with new content

We've put together a package of **free support** to help you **plan** and **teach** our new qualifications, **track and assess** students' progress, and **develop** your own professional knowledge and skills.

Find out more about our free support at [quals.pearson.com/aleveltdt](https://quals.pearson.com/aleveltdt)

## Plan

We can help you to get to grips with changes to content and assessments, as well as saving you time in planning, including:

- ✎ **A Getting Started guide** to the new qualification.
- ✎ An **editable course planner** and **scheme of work** for the new course.
- ✎ The **mapping document** highlights the key differences you need to know between the current and new qualifications.

## Track and Assess

We will also provide a range of resources to help you prepare your students for the assessments, including:

- ✎ additional **assessment materials** to support formative assessments and mock exams
- ✎ **marked exemplars** of student work with **examiner commentaries**.

### ✎ ResultsPlus

Analyse your students' exam performance with our free online ResultsPlus service.

[quals.pearson.com/resultsplus](https://quals.pearson.com/resultsplus)

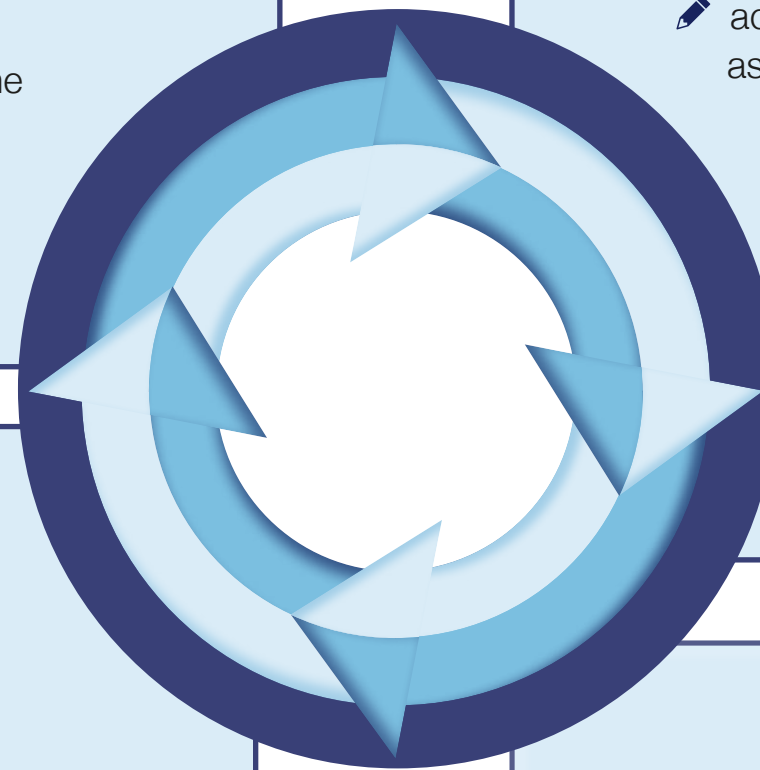
## Teach

There will be lots of free teaching and learning support to help you deliver the new qualification, including:

- ✎ a guide on **graphics** content
- ✎ hints on delivering **mathematical** skills.

## Develop

- ✎ Join us and your fellow teachers for the **Getting Ready to Teach events** in spring 2017.
- ✎ Contact your **Subject Advisor**, Evren, and the team for advice when you need it.












# What's changing?

These content changes apply to all awarding organisations' specifications.

Awarding organisations can only offer three endorsements, and can choose which ones to offer.


-  Product Design
-  Fashion & Textiles
-  Design Engineering

We have chosen **Product Design**.

-  NEA is now 50% of the qualification, reduced from 60%, reflecting an increased focus on examined content but still enabling students to design, make and evaluate creative products.
-  The content now includes core and specialist topics, all of which have to be studied.
-  Mathematics and science content is included.
-  There are now four Assessment Objectives (previously there were two) to allow for increased focus on analysis and evaluation.

## Subject support

If you have any questions, Evren is our resident expert and always happy to help. Sign up to receive emails to keep up with the latest information on training events, news, government announcements and more.

 0207 010 2166

 [teachingdesignandtechnology@pearson.com](mailto:teachingdesignandtechnology@pearson.com)

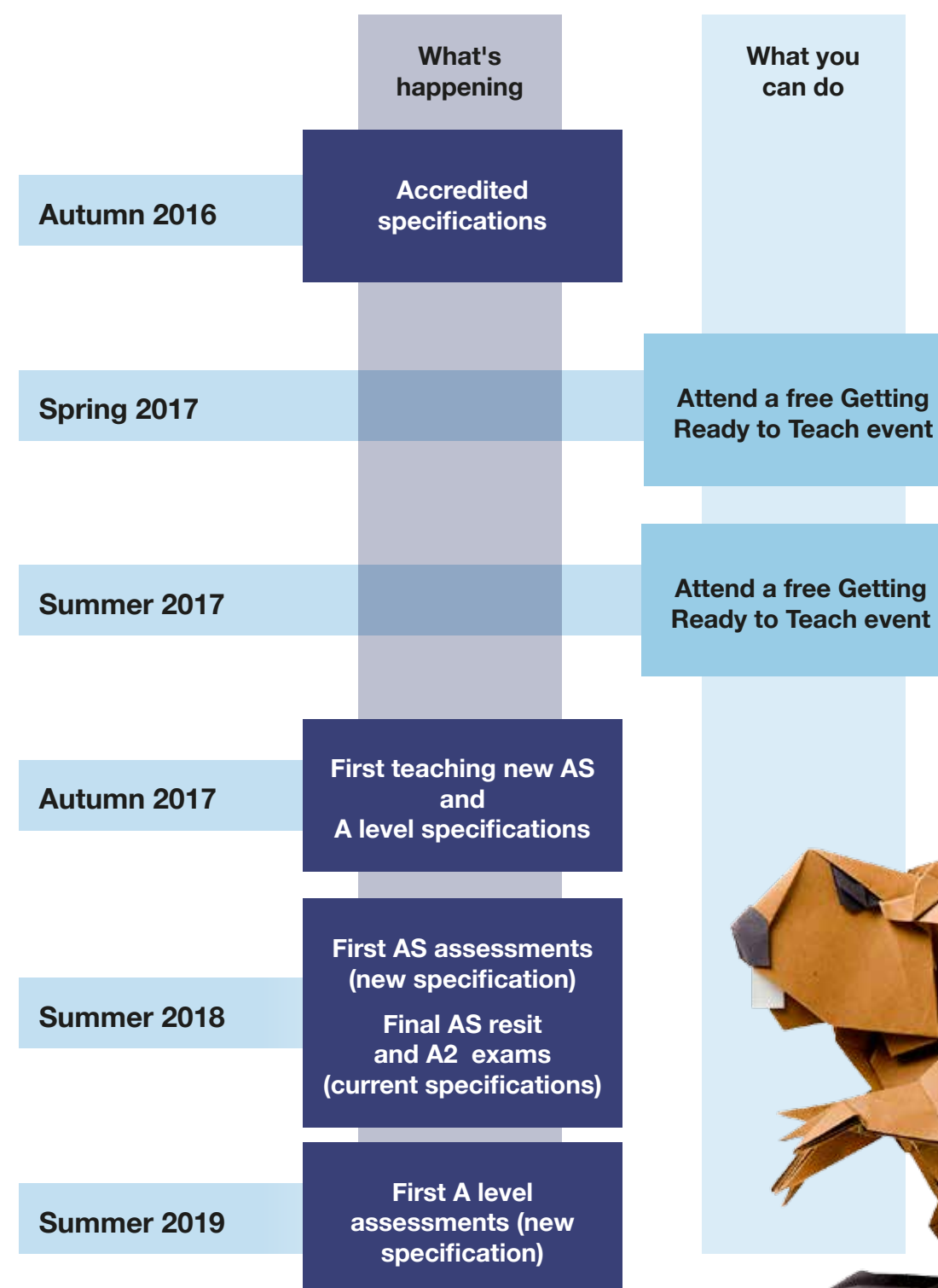
 Follow Evren on Twitter: @PearsonTeachDT

[quals.pearson.com/aleveldt17](https://quals.pearson.com/aleveldt17)



Evren Alibaba  
Design and  
Technology Subject  
Advisor

# What's happening



# Next steps...

## Sign up to teach

### **Edexcel AS and A level Design and Technology**

If you're interested in teaching our qualifications, be sure to let us know so you receive important specification updates and support.

**Sign up to teach at:**

**[quals.pearson.com/TeachAlevelDT2017](https://quals.pearson.com/TeachAlevelDT2017)**

### **Book on to a free Getting Ready to Teach event**

Book your place on a free face-to-face or online Getting Ready to Teach event now to get yourself prepared for first teaching in September 2017.

**[quals.pearson.com/AlevelDTgrtt](https://quals.pearson.com/AlevelDTgrtt)**

