Curriculum Overview 2023-24: Design and Technology – Graphics: GCSE Ed-Excel

Graphic Products is a design and technology subject taught at both KS3 and KS4. It develops student's skills and understanding in drawing techniques, presentation techniques and the use of Computer Aided Design (CAD).

Year Group 7 Graphics	**Autumn Term / Spring Term / Summer Term** **Bobble Head Superhero:** During this 9-week project students will learn and develop new drawing skills based on the theme of superheroes. In addition, students will be taught rendering techniques to enhance their drawings. Students develop fundamental drawing skills throughout all Design and Technology subjects. Students gain an understanding of 2D, and 3D shapes related to a fun and exciting theme to create a product that is commercially viable. They further develop skills by looking at net developments, using numeracy to design these.	**Useful information / websites** www.technologystudent.com www.BBCbitesize.com www.designtechnology.info/home
Year Group 8 Graphics	**Autumn Term / Spring Term / Summer Term** **Personalised Mug Sublimation:** This project focuses on further developing drawing skills and introducing perspective drawing skills. The product that the students make is a mug, which is designed and transferred by them using a sublimation printer and mug press. This is an industrial practice process that students can experience in a classroom environment. Students begin to understand the design process by drawing their initial ideas by hand and then going onto develop them using computer aided design. Alongside this, students gain an understanding of different methods of designing and developing ideas to suit various audiences, as well as analysing existing products to gain deeper knowledge on how design can influence a product.	**Useful information / websites** www.technologystudent.com www.BBCbitesize.com www.designtechnology.info/home

Year Group	Autumn Term	Spring Term	Summer Term	Useful information / websites
Year 9 Graphics	Development of basic but technical drawing skills followed by a mini-drawing project, incorporating these skills with real life objects/products • One point/two-point perspective • Isometric projection	Understanding brand design. Producing a brand name and logo linked to the theme of creating their own drink bottle brand. • Typography • Logo development • Creative wording • Slogan design	Understanding complex net developments and design related to a theme of creating a chocolate box or perfume/aftershave box • 2D shapes • 3D shapes • Construction methods	www.technologystudent.com www.BBCbitesize.com www.designtechnology.info/home www.design-technology.org www.mr-dt.com

	• 3D drawing from 2D shapes • Mini-skills based project highlighting drawing skills related to products	• Use of images and wording to gain personification • Colour/shade/tone • Analysing existing brands/logos • CAD/CAM design a & development	• Design development • Branding / logo design • Links to industrial machinery • Use of CAD/CAM for design, development and construction.	www.edexcel.com/designandtechnology.com
Year 10 Graphics	Design and Technology core content: Learning key areas that are required for the GCSE exam and the non-examined assessment (project). • The impact of new and emerging technologies • How the critical evaluation of new and emerging technologies informs design decisions; considering contemporary and potential future scenarios from different perspectives, such as ethics and the environment • How energy is generated and stored in order to choose and use appropriate	Core content is continued thorough the spring term. • The functions of mechanical devices used to produce different sorts of movements, including the changing of magnitude and the direction of forces • How electronic systems provide functionality to products and processes, including sensors and control devices to respond to a variety of inputs, and devices to produce a range of outputs • The use of programmable components to embed functionality into products in order to enhance and customise their operation	Core content is continued through the summer term. • The categorisation of the types, properties and structure of papers and boards • The categorisation of the types, properties and structure of thermoforming and thermosetting polymers • 2 The categorisation of the types, properties and structure of natural and manufactured timbers • Investigate and analyse the work of past and present professionals and	www.technologystudent.com www.BBCbitesize.com www.designtechnology.info/home www.design-technology.org www.mr-dt.com www.edexcel.com/designandtechnology.com

	sources to make products and power systems • Developments in modern and smart materials, composite materials and technical textiles	• The categorisation of the types, properties and structure of ferrous and non-ferrous metals **Mini GCSE project (T-Shirt design, board game or gadget holder using recyclable resources / upcycling)** Design and make project for students to choose, incorporating branding design, design development, industry making skills and CAD/CAM development.	companies in order to inform design 1St June – GCSE begins, with contextual challenges released and students begin to select their preferred challenge to design and make. This leads into the Year 11 NEA.	
Year 11 Graphics	**Design & make project – 50% of qualification.** Students pick a contextual challenge provided by the exam board. Students will produce a project, based on their specialism, which consists of a portfolio and prototype. Part 1 – Investigate Part 2 – Design Part 3- Make Part 4 - Evaluate	Design & Make project completed, moderated and submitted. Revision on core content is revisited from year 10. Revision is more focused on exam style questions.	**Examination – 50% of qualification.** Core content is revisited and implemented into the teaching. Subject specific content is covered for the exam. **Section A**: Core This section is 40 marks and contains a mixture of different question styles, including open-response, graphical, calculation and extended-open-response questions. There will be 10 marks of calculation questions in Section A. **Section B**: Material categories This section is 60 marks and contains a mixture of	www.technologystudent.com www.BBCbitesize.com www.designtechnology.info/home www.design-technology.org www.mr-dt.com www.edexcel.com/designandtechnology.com

			different question styles, including open-response, graphical, calculation and extended-open-response questions. There will be 5 marks of calculation questions in Section B	