A-Level DT Fashion & Textiles PLC 2018 (Yr. 13)

Name: **TG:**

Please rank your understanding on a Red/Amber/Green scale using highlighters

Key idea - Core	What students need to learn	Actions	When
3.1.2 Performance characteristics of materials	**Commercial names of fabrics**: • Tactel® • Lyocell® • Modal® • Tencel® • Lycra® • Polar fleece.		
3.1.6 Modern industrial and commercial practice	Specific **scales of production** to include: • one-off, bespoke • batch production • mass/line production • unit production systems (UPS) • quick response manufacturing (QRM) • section • vertical in-house production.		
	Computer systems • used to plan and control manufacturing, reduce waste and respond quickly to changes in consumer demand. • Students should be able to explain the use of computer controlled systems in production, distribution and storage. • Students should be able to explain the use of standardised and bought-in components made by specialist manufacturers.		
	Sub-Assembly Sub-assembly as a separate line of manufacture for certain parts of a product		
	Global production Students should be aware of and able to explain the positive and negative impacts of global production, including: • offshore production • imports and exports • branded goods • contracted goods.		
3.1.7 Digital design and manufacture	**CAD** • The advantages and disadvantages of using CAD compared to manually generated alternative. • The use of CAD to develop and present ideas for products. • How CAD is used in industrial applications.		
	How **CAM** is used in the manufacture of products. Specific processes to include: • fabric manufacture • fabric printing • lay planning and computer controlled cutting • automated buttonholing • making and sewing of pockets • seam stitching • pressing • computer controlled decorative processes • laser cutting.		

	How **Virtual modelling**/testing is used in industry prior to product production. Specific processes to include: • simulation • pattern design systems • computer controlled printing to produce sample fabric lengths.		
	Electronic data interchange. Students should be aware of, and able to describe, the use of electronic point of sales (EPOS) for marketing purposes and the collection of market research data.		
	Production, planning and control (PPC) networking Students should be aware of, and able to describe, the role of PPC systems in the planning and controlling of all aspects of manufacturing, including: • availability of materials • scheduling of machines and people • coordinating suppliers and customers.		
3.1.8 The requirements for textile and fashion design and development	**Product development and improvement**. Through the study and critical analysis of existing products students should develop and understanding of the requirements of the following: • the design, development and manufacture of fashion clothing and textiles products to meet specification criteria • fitness for purpose • accuracy of production • how the critical assessment of products can lead to the development of new designs. Students should develop the skills to critically assess products and develop new design proposals. Students should develop their ability to work with a variety of materials, including two- and three dimensional forms, to produce creative and original products which satisfy the demands of the target market, and consider accurate and efficient manufacture. When designing products/prototypes students should consider aesthetics, ergonomics and anthropometrics. **Inclusive design**. Students should be aware of, and be able to explain, the development of products that are inclusive in their design so that they can be used by a wide range of users including the disabled, children, the elderly, transgender people and gender nonconformists.		
3.1.9 Health and safety	Safe working practices: • knowledge of the Health and Safety at Work Act (1974), and how it influences the safe manufacture of textile products • control of Substances Hazardous to Health (COSHH) and safety precautions that should be taken with relevant materials • safe working practices and identifying potential hazards for the school or college workshop and industrial contexts • safety precautions that should be taken with specific manufacturing processes • the concept of risk assessment and its application to given manufacturing processes.		

	Safety in products and services to the customer. Students should be aware of, and able to explain, how designers and manufacturers ensure products are safe for consumers to use, including: • legislation used to protect consumers and its impact on product design, eg Consumer Rights Act (2015), Sales of Goods Act (1979), specifically including the requirements that relate to children's clothing • the British Standards Institute (BSI), and how specific products might be tested to meet safety standards • measures to ensure the safety of toys, eg Lion Mark • advice to consumers: • manufacturer's instructions • safety warnings • aftercare advice including care labelling.		
3.1.10 Protecting designs and intellectual property	Students should be aware of, and able to explain, the importance of the following to the designer: • copyright and design rights • patents • registered designs • trademarks • logos.		
3.1.12 Feasibility studies	The use of feasibility studies to assess the practicality for production of proposed designs, including the testing of prototypes with potential consumers.		
3.1.13 Enterprise and marketing in the development of products	The importance of marketing and brand identity, including: • customer identification • labelling • packaging • corporate identification • concept of global marketing: the promotion and advertisement of products including the use of new technologies, eg social media, viral marketing • product costing and profit • awareness of the role of entrepreneurs. The collaborative working of designers in the development of new and innovative fashion, clothing and textile products. Factors affecting product price, including: • costs • profit margin • target market • budget.		
	Fashion cycles The sales and marketing cycles for specific product groups, including: • fad • classic • standard. The impact of fashion on trend and the development of design products, including: • retro • vintage • industrial • traditional. Industry development cycles, including: • colour trends • fibre trends • predictions • the importance and purpose of trade fairs. The influence of trend and changes in lifestyle on fashion, clothing and textile products.		
3.2.3 How technology and cultural changes can impact on the work of designers	How **major developments in technology** are shaping product design and manufacture, including: • the introduction of regenerated and synthetic fibres during the 20th century • the development of fabric finishes, e-textiles and smart materials • new methods of manufacturing clothing and textile materials including mass production as opposed to		

	bespoke, automated manufacturing including CAD and CAM • new decorative techniques such as laser printing • development in the care of textiles.		
	Product Life cycle The stages of the product life cycle, including: • design introduction • evolution • growth • maturity • decline • replacement. Students should be able illustrate their understanding with examples of how, with reference to specific products, designers have refined and redeveloped products.		Term 5
	Social, moral and ethical issues The responsibilities of designers and manufacturers, including: • products are made using sustainable materials and ethical production methods • the development of products that are culturally acceptable, not offensive to people of different race, gender or religious belief • the development of products that are inclusive • the design and manufacture of products that could assist with social problems, eg poverty, health and wellbeing, migration and housing • the impact of Fairtrade on design and consumer demand • designing products to consider the six Rs of sustainability • the concept of upcycling		
3.2.7 Accuracy in design and manufacture	Measuring and marking out. The importance of accuracy in manufacturing, whatever the scale of production, including: • how testing can eliminate errors • the value in the use of measuring aids, eg templates, in ensuring consistency of accuracy and the reduction of possible human error.		
3.2.8 Responsible design	**Environmental issues** The importance of environmental issues in design and manufacture, including: • the responsibilities of designers and manufacturers in ensuring products are made from sustainable materials and components • the environmental impact of sourcing textile materials, their use and care on the environment • the environmental impact of packaging textile products, eg use of excessive packaging and plastic.		
	Conservation of energy and resources The concept of a circular economy, including: • how products are designed to conserve energy, materials and components • the design of fashion, clothing and textiles for minimum impact on the environment including raw material extraction, consumption, ease of repair, maintenance and end of life • sustainable manufacturing including the use of alternative energy and methods to minimise waste • the impact of waste, surplus and by-products created in the process of manufacture including reuse of material off-cuts, chemicals, heat and water • cost implications of dealing		

	with waste • the impact of global manufacturing on product miles.		
3.2.9 Design for manufacture and project management	**Quality assurance.** The procedures and policies put in place to reduce waste and ensure manufactured products are produced accurately and within acceptable tolerances, including quality assurance systems, including, Total Quality Management (TQM), and how they are applied to specific examples in fashion, clothing and textiles manufacture, including critical path analysis, scrum or six sigma. **Quality control.** The monitoring, checking and testing of materials, components, equipment and products throughout production to ensure they conform to acceptable tolerances. Product sampling. Quick response manufacturing teams and quality circles. Automated equipment to check for faults in fabrics. Labelling and quality assurance symbols, eg wool mark, 100% cotton logo, Tencel® logo, Teflon® fabric finish logo. Quality control standards as laid down by BSI and voluntary codes of practice		
3.2.10 National and international standards in product design	Relevant national and international standards. Students should be aware of, and able to discuss, the importance of national and international standards in product design, including: • the four areas to be considered when labelling a garment: fibre content, country of origin, care instructions, flammability • British Standards Institute (BSI): performance codes in relation to the selection of materials for a range of end users • International Organisation for Standardisation (ISO). • the European Eco label • packaging directives.		

The majority of the content in the key ideas listed below will be experienced through your NEA:

3.2 Designing and making principles

3.2.1 Design methods and processes

3.2.4 Design processes

3.2.5 Critical analysis and evaluation

3.2.6 Selecting appropriate tools, equipment and processes

Please see the full specification online at AQA.org.uk