YEAR 11 Product Design Unit 1
Personal Learning Checklist

Materials and Component

	☺	😐	☹
Classification and working properties of materials			
Timber based materials			
Ferrous and non ferrous metals			
Plastics			
Textiles			
Ceramics			
Food			
Electronic and Control components			
New materials			
Functions, uses and applications of 'smart'/modern materials;			
Full range of graphic equipment to develop hand-generated images			
Appropriate adhesives for different materials; i.e. PVA, epoxy resins.			
Hand & powered cutting & forming tools safely; i.e. Craft Knife			
'Bought-in' components where appropriate. i.e. fasten, seal.			
How graphic materials can be linked with other components			

Design and Market Influences

Designers and design movements	☺	😐	☹
Recognise that designers are influencing new product design			
Recognise the style of the work of the main design movements			
The Arts and Crafts Movement - William Morris			
De Stijl - Theo van Doesburg and Gerrit Rietveld			
Post- Modernism - The Memphis Group			
Modernism - Charles Rennie Mackintosh			
Bauhaus - Walter Gropius			
Art Deco - Clarice Cliff (Egyptian art)			
Techniques and Processes	☺	😐	☹
Communicate a concept to a client, manufacturer or purchaser			
Functions of mock-ups, models & Prototypes & importance in the DP			
'Target marketing' & 'gap in the Market' are used to promote a product			
Sketching	☺	😐	☹
Produce quality, annotated 2D and 3D freehand drawings			
Use crating/wire frame techniques to produce drawings			
Use grids and under-lays			

Enhancement	☺	😐	☹
Pencils, pen, colour to add visual impact & accentuate shape & form			
Use textural representation to convey different materials and surfaces			
Demonstrate an understanding of contrast, complementary, hue & tone			
Apply the language of colour			
Aware of colour fusion & separation and its commercial application			
Presentation	☺	😐	☹
Demonstrate a knowledge of computer graphic manipulation			
Generate and select suitable lettering			
Have a knowledge of encapsulation			
Use presentation drawings conceptualise the final design			
Use ICT to promote the final design to the client.			
Pictorial drawings	☺	😐	☹
Produce orthographic/third Angle drawings			
Produce one point and two perspective drawings			
Working drawings	☺	😐	☹
Third angle orthographic projection to British Standard Conventions			
Demonstrate use of self assembly, sectional & exploded drawings			
Use and understand scale drawings			
Interpret room, site plans and maps			
Surface development (net)	☺	😐	☹
3D containers are manufactured from sheet material & draw a net			
Knowledge of CAD/CAM to produce & manipulate surface development			
Information drawings	☺	😐	☹
Represent data in graphical form; i.e. 2D & 3D bar and pie charts Etc…			
Understand the language of labels and signage			
Understand the function and uses of corporate identity			
Produce ideograms, pictograms and symbols			
Produce flowcharts with feedback loops			
Produce sequential illustrations			
Produce schematic maps			

Design and Market Influences

Products & applications	☺	😐	☹
Quality of design and quality of manufacture			
Product life-cycle including design introduction, evolution etc			
Needs and wants of customers			
Use criteria to judge the quality of a graphic product i.e. meeting a need			
Evaluation techniques	☺	😐	☹
Evaluation contribution to designing an on-going product			
identify the role end-users and others play in evaluation			
Identify ways in which a product can be tested or evaluated			
Test the outcomes against the original specification			
Summative evaluation of final outcome against original specification			
Social, Cultural, Moral, Environmental, Economic & Sustainability Issues	☺	😐	☹

Graphics Images/products:Not offend minority groups			
Consider moral and cultural implications of graphic products			
Ergonomics & use of anthropometric data when designing product			
Symbols & signs: Essential information on packaging			
Economic	☺	😐	☹
Understand the materials & social costs of materials and packaging			
Have an awareness of planned obsolescence			
Sustainability	☺	😐	☹
The 6 Rs rules – repair, reduce, recycle, re-use, re-think, refuse			
Consider environmental issues related to graphic products			
Consequences: increased & reduced use of product packaging;			
Advantages & disadvantages of re-cycling & re-using materials			
Information & Communication Technology	☺	😐	☹
Identify the component parts of a CAD/CAM system			
CAD/CAM & ICT input and output devices and their function			
Select & use appropriate CAD software			
Select & use appropriate ICT & graphic software			
Know the benefits and costs of CAD/CAM & ICT			
Produce virtual reality models using CAD software			
Electronic transfer of data permits designing & manufacturing activities			
Use photographic evidence			
Photographic evidence: Digital or video record any stages during D&M			
Health & safety issues	☺	😐	☹
Info regarding the safe Handling of tools, materials, components			
Hazards, Risk assessment, Control the risks to themselves & others			
Information relating to legislation intended to protect the public			
Symbols & signs relating to QA endorsed by recognised authorities			
Use information to assess the immediate & cumulative risks			
Manage their environment to ensure the H&S of themselves and others			
Processes and Manufacture			
Systems and control procedures	☺	😐	☹
Input, process, output & feedback in the production of final product			
Logical order of work & how it changes as SOP increases			
Produce a flow chart of a manufacturing system and show feedback			
QC marks & symbols used in industry i.e. Apllying tolerance			
Electronic control components i.e. Integrated circuit			
Mechanical control components i.e. Types of systems, Linkages			
Industrial Practices	☺	😐	☹
How the method of production changes from single to multiple			
Sequence of making tasks that show how & when decisions are made			
Producing scale models & prototypes: Product Development			
Understand the different demands of different scales of production			
Have an awareness of ‘just in time production’ (JIT)			
How common products are designed & manufactured			

How and why quality checks are made in production			
Commercial printing & packaging methods; i.e. lithography			
Match production method to best printing methods			
Four processing colours and understand special colours			
Print finishes used in printing, varnishing, laminating,			
Multiple surface developments are produced by the use of die cutting			
Identify devices used to form shapes, position features & repetition			
The function & need for packaging: Eg. Protection			
Reduction of waste & show economical use of materials			
Design ideas are protected in law through copyright			