



SAMPLE COURSE OUTLINE

MATERIALS DESIGN AND TECHNOLOGY PRELIMINARY UNIT 1 AND UNIT 2

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Any resources such as texts, websites and so on that may be referred to in this document are provided as examples of resources that teachers can use to support their learning programs. Their inclusion does not imply that they are mandatory or that they are the only resources relevant to the course.

Sample course outline

Materials Design and Technology – Preliminary

Unit 1 and Unit 2

Unit 1 (notional timeframe only – may take up to whole year)

Week	Key teaching points	Content
1	Introduction to design, materials and workshop/studio	Materials – nature and properties of materials Identify, by appearance and name, materials within the chosen context Identify basic aesthetic properties or characteristics
2–4	Design fundamentals and skills Task 1: Introduction to simple design through products and materials The nature and properties of materials of different products Introduction to a design process. Look at products and materials using design fundamentals, such as colour, appearance, texture and weight Task 1 due Week 2 Task 2: Material differences and uses Explore differences in products and materials Likes and preferences based on design choices and design fundamentals Task 2 due Week 4	Materials in context Identify basic uses for materials within the chosen context Design fundamentals and skills Seek and discuss links between design processes and final products, such as design concept sketches compared to the finished product Identify a product from its design and determine that the product and design are the same object Use pre-prepared designs to make design choices Decision making: make design choices based on colour and shape
5–7	Use of technology – practical skills and techniques within the design process Task 3: Methods of communicating design ideas Students use simple drawing and annotation techniques to develop a product, or use pre-prepared drawings of designs to make changes by design choices Task 3 due Week 7	Skills and techniques Use pre-prepared design in developing a solution Use simple graphic communication technologies Name and use basic equipment as appropriate to context
8–15	Use of technology – safety, production skills and techniques Task 4: Manufacture the product Practical skills and techniques are used in the manipulation of materials to produce the product, as applicable to context. Safety; students' correct use of personal protective equipment (PPE) where applicable Production management as directed by the teacher Task 4 due Week 15	Name and use basic equipment as appropriate to context Manipulate materials Safety Correct use of personal protective equipment (PPE) where applicable Production management Use teacher-directed design, production plans and processes With supervision, use simple tools and/or machines safely Communicate and describe, in simple terms, the production process Demonstrate workshop clean-up procedures

Week	Key teaching points	Content
16	Design fundamentals and skills Evaluation of products Task 5: Presentation of completed product Task 5 due Week 16	Design fundamentals and skills Seek and discuss links between design processes and final products, such as design concept sketches compared to the finished product

Unit 2 (notional timeframe only – may take up to whole year)

Week	Key teaching points	Content
1	Re-introduction to design, materials and workshop/studio	Nature and properties of materials Identify, by appearance and name, within the chosen context <ul style="list-style-type: none"> metals – steel, aluminium, copper, brass, tin, stainless steel textiles – cotton, denim, linen, wool, silk wood – softwoods, hardwoods, manufactured boards Identify basic aesthetic properties or characteristics, such as: <ul style="list-style-type: none"> colour – bright, dull appearance – patterned, plain texture – soft, hard, smooth, rough weight – heavy, light
2–4	Design fundamentals and skills Task 6: Explore the nature and properties of different materials in different products Continue with a design process Look at a range of different materials using design fundamentals: colour, appearance, texture and weight Task 6 due Week 2 Task 7: Explore differences in products and materials Personal likes and preferences based on design fundamentals and factors affecting design Task 7 due Week 4	Materials in context Within a chosen context, identify common materials and describe their uses Name some products or objects made from common materials Design fundamentals and skills Identify product/s and discuss: <ul style="list-style-type: none"> factors affecting design, chosen from: <ul style="list-style-type: none"> personal likes/dislikes aesthetics – appearance, form function – purpose, use safety – design requirements cost – compare similar products Seek and discuss links between designs and final products Use a guided design method or pre-prepared designed components to develop own solution Decision making: make design choices based on factors affecting design

Week	Key teaching points	Content
5–7	<p>Use of technology – practical skills and techniques</p> <p>Task 8: Students use simple drawing and annotation techniques to develop a product, making changes by design choices within the design process, to develop an individual design solution</p> <p>Task 8 due Week 7</p>	<p>Use of technology – skills and techniques</p> <p>Use a guided design method or pre-prepared designed components to develop own solution</p> <p>Use basic graphic skills, such as desktop publishing and/or hand sketching with simple annotation</p> <ul style="list-style-type: none"> • 2D pencil sketches • colour drawings • ICT drawing <p>Use appropriate terminology and conventions</p>
8–15	<p>Use of technology – safety, production skills and techniques</p> <p>Task 9: Manipulation of materials to produce the product, as applicable to context</p> <p>Safety; correct use of personal protective equipment (PPE) where applicable</p> <p>Production management as directed by teacher</p> <p>Task 9 due Week 15</p>	<p>Use of technology – skills and techniques</p> <p>Name and use basic equipment as appropriate to context</p> <p>Manipulate materials</p> <ul style="list-style-type: none"> • mark out parts/shapes • cut out and/or shape parts/shapes • join or assemble and finishing <p>Safety</p> <p>Correct use of personal protective equipment (PPE) where applicable</p> <p>Production management</p> <p>Use teacher-directed design, production plans and processes</p> <p>With supervision, use simple tools and machines safely</p> <p>Communicate and describe the production process in simple terms</p> <p>Maintain progress to complete a finished product</p>
16	<p>Design fundamentals and skills</p> <p>Evaluation of products</p> <p>Task 10: Presentation of completed product/s</p> <p>Task 10 due Week 16</p>	<p>Design fundamentals and skills</p> <p>Identify product/s and discuss factors affecting design</p> <p>Seek and discuss links between designs and final products</p>