SAMPLE COURSE OUTLINE

MATERIALS DESIGN AND TECHNOLOGY
GENERAL YEAR 11
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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 – General Year 11**

**Unit 1 and Unit 2**

### Semester 1

<table>
<thead>
<tr>
<th>Week</th>
<th>Key teaching points</th>
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</table>
| 1–3  | Overview of unit and assessment requirements  
      Design fundamentals and skills. Introduction to design process; investigate and devise through development of a design portfolio.  
      **Task 1 Part A**  
      **Design fundamentals and skills**  
      • investigate  
      • devise  
      • evaluate  
      Materials in context. Investigate materials; research and identify environmental considerations of the three ‘Rs’—reduce, re-use and recycle.  
      **Task 3**  
      **Materials in context – as per context**  
      • broad areas of use of specific materials  
      • identification of environmental considerations  
      ├── three ‘Rs’ – reduce, re-use, recycle  
      └── ways to reduce waste  
      └── ways to re-use and recycle |
| 2–3  | Design fundamentals and skills. Devise a solution; through concept drawings, working drawings, patterns or templates.  
      Materials list/s, costing and production planning.  
      **Task 1 Part B**  
      **Use of technology**  
      **Skills and techniques**  
      • ICT, portfolio development and communication skills  
      • Context-appropriate drawings and relevant technical information to produce the final product  
      • workroom/studio terminology appropriate to context  
      • select appropriate materials and calculate the quantities of materials required to complete the project |
| 4–6  | Use of technology – skills and techniques. Production skills; task/s to develop practical hand and machine skills.  
      **Task 2 Part A**  
      **Use of technology**  
      **Skills and techniques**  
      • workroom/studio terminology appropriate to context  
      • select appropriate materials and calculate the quantities of materials required to complete the project  
      • with supervision, operate machinery and tools appropriate to context  
      **Safety**  
      • correct use of Personal Protective Equipment (PPE) where applicable  
      • Occupational Safety and Health (OSH) practices appropriate to tasks being undertaken in workshops  
      **Production management**  
      • production plan  
      • ongoing evaluation techniques: diary, journal or portfolio notes and use of photography to record ongoing progress/decision changes made to the project |
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| 9–15 | Use of technology – skills and techniques, production management. Manufacture of proposed product; using prepared production plan, materials and available equipment; record progress in design portfolio.  
**Task 2 Part B**  
Use of technology  
Skills and techniques  
Safety  
Production management |
| 16   | Design fundamentals and skills. Evaluation of completed product; written report on and photographs of completed product.  
**Task 1 Part C** |

**Semester 2**

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| 1–3  | Overview of Unit 2 and assessment requirements  
Design fundamentals and skills. Revise design process; investigation and development of a design portfolio.  
**Task 4 Part A**  
Design fundamentals and skills  
- investigate  
- devise  
- evaluate  
Nature and properties of materials. Investigate materials; research and identify physical differences between materials within selected context.  
**Task 5** |
| 4    | Design fundamentals and skills. Devise a solution; through concept drawings, working drawings, patterns or templates. Prepare materials list/s, costing and production planning.  
**Task 4 Part B**  
Use of technology  
Skills and techniques  
- ICT, portfolio development and communication skills  
- develop context-appropriate drawings and relevant technical information to produce the final product  
- use workroom/studio terminology appropriate to context  
- select appropriate materials and calculate the correct amount required to order and purchase materials to complete the project  
- operate machinery and tools appropriate to context |
| 5–7  | Use of technology – skills and techniques, production management. Manufacture of proposed product; using prepared production plan, materials and available equipment; record progress in design portfolio.  
**Task 6**  
Use of technology  
Skills and techniques  
- use workroom/studio terminology appropriate to context  
- select appropriate materials and calculate the correct amount required to order and purchase materials to complete the project  
- operate machinery and tools appropriate to context |
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<td><strong>Safety</strong></td>
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<td>• correct use of personal protective equipment (PPE) where applicable</td>
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<td>• conduct risk assessment for using specific tools/machinery</td>
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<td>• demonstrate occupational safety and health practices appropriate to tasks being undertaken in workshops</td>
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<td>• apply risk-management strategies in the workshop/studio</td>
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<td>• recognise need and purpose of MSD (materials safety data) with regard to storage and handling of hazardous substances and hazardous operations appropriate to situation</td>
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<td><strong>Production management</strong></td>
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