

## Appendix 2

### **Assessment Criteria and Mark Bands for Unit 3: Design and Manufacturing Project**

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### Assessment Criteria and Mark Bands for Unit 3: Design and Manufacturing Project

Design Thinking, Analysis and Specification								
Assessment Objectives	Mark Band 1: <b>Limited</b>	Mark Range	Mark Band 2: <b>Satisfactory</b>	Mark Range	Mark Band 3: <b>Good</b>	Mark Range	Mark Band 4: <b>Excellent</b>	Mark Range
		Relevant material is poorly organised and presented with a lack of clarity and coherence.		Relevant material is sufficiently organised and presented with some clarity and coherence.		Relevant material is well organised and presented with a good degree of clarity and coherence.		Relevant material is succinct, well organised and presented with a high degree of clarity and coherence.
AO1 AO2 AO3 Total (10)	<p><b>Candidates may require considerable guidance to:</b></p> <ul style="list-style-type: none"> <li>choose a design theme and explore possibilities;</li> <li>engage with a design theme and produce a limited design brief; and</li> <li>produce a limited problem analysis and specification.</li> </ul>	(1–2)	<p><b>Candidates may require some guidance to:</b></p> <ul style="list-style-type: none"> <li>choose a design theme and explore possibilities;</li> <li>engage with a design theme and produce a satisfactory design brief; and</li> <li>produce a satisfactory problem analysis and specification.</li> </ul>	(3–5)	<p><b>Candidates may require little guidance to:</b></p> <ul style="list-style-type: none"> <li>choose a design theme and explore possibilities;</li> <li>engage with a design theme and produce a good design brief; and</li> <li>produce a good problem analysis and specification.</li> </ul>	(6–8)	<p><b>Candidates work independently to:</b></p> <ul style="list-style-type: none"> <li>choose a design theme and explore possibilities;</li> <li>engage with a design theme and produce an excellent design brief; and</li> <li>produce an excellent problem analysis and specification.</li> </ul>	(9–10)
<b>Award zero marks for work not worthy of credit.</b>								

Concepts and Analysis								
Assessment Objectives	Mark Band 1: <b>Limited</b>	Mark Range	Mark Band 2: <b>Satisfactory</b>	Mark Range	Mark Band 3: <b>Good</b>	Mark Range	Mark Band 4: <b>Excellent</b>	Mark Range
		Relevant material is poorly organised and presented with a lack of clarity and coherence.		Relevant material is sufficiently organised and presented with some clarity and coherence.		Relevant material is well organised and presented with a good degree of clarity and coherence.		Relevant material is succinct, well organised and presented with a high degree of clarity and coherence.
AO1 AO2 AO3 Total (25)	<p><b>Candidates may require considerable guidance to:</b></p> <ul style="list-style-type: none"> <li>develop initial design concepts that make use of a range of limited freehand graphical techniques; the freehand concept sketches should show evidence of limited creative thinking and analysis; and</li> <li>produce basic annotation showing limited knowledge and understanding of the potential solution.</li> </ul>	(1–7)	<p><b>Candidates may require some guidance to:</b></p> <ul style="list-style-type: none"> <li>develop initial design concepts that make use of a range of satisfactory freehand graphical techniques; the freehand concept sketches should show evidence of satisfactory creative thinking and analysis; and</li> <li>produce satisfactory annotation showing satisfactory knowledge and understanding of the potential solution.</li> </ul>	(8–13)	<p><b>Candidates may require little guidance to:</b></p> <ul style="list-style-type: none"> <li>develop initial design concepts that make use of a range of good freehand graphical techniques; the freehand concept sketches should show evidence of good creative thinking and analysis; and</li> <li>produce good annotation showing good knowledge and understanding of the potential solution.</li> </ul>	(14–19)	<p><b>Candidates work independently to:</b></p> <ul style="list-style-type: none"> <li>develop initial design concepts that make use of a range of excellent freehand graphical techniques; the freehand concept sketches should show evidence of excellent creative thinking and analysis; and</li> <li>produce excellent annotation showing detailed knowledge and understanding of the potential solution.</li> </ul>	(20–25)
<b>Award zero marks for work not worthy of credit.</b>								

Development of Proposed Concepts: Modelling and Testing								
Assessment Objectives	Mark Band 1: <b>Limited</b>	Mark Range	Mark Band 2: <b>Satisfactory</b>	Mark Range	Mark Band 3: <b>Good</b>	Mark Range	Mark Band 4: <b>Excellent</b>	Mark Range
	Relevant material is poorly organised and presented with a lack of clarity and coherence.		Relevant material is sufficiently organised and presented with some clarity and coherence.		Relevant material is well organised and presented with a good degree of clarity and coherence.		Relevant material is succinct, well organised and presented with a high degree of clarity and coherence.	
AO1 AO2 AO3 Total (35)	<p><b>Candidates may require considerable guidance to:</b></p> <ul style="list-style-type: none"> <li>develop creative design thinking using limited freehand/presentation sketches and/or computer modelling techniques;</li> <li>illustrate, develop and analyse how the solution may perform, using limited annotation and having considered a range of appropriate factors; and</li> <li>develop limited working drawing(s) showing the necessary details to enable the prototype to be manufactured.</li> </ul>	(1–9)	<p><b>Candidates may require some guidance to:</b></p> <ul style="list-style-type: none"> <li>develop creative design thinking using satisfactory freehand/presentation sketches and/or computer modelling techniques;</li> <li>illustrate, develop and analyse how the solution may perform, using satisfactory annotation and having considered a range of appropriate factors; and</li> <li>develop satisfactory working drawing(s) showing the necessary details to enable the prototype to be manufactured.</li> </ul>	(10–18)	<p><b>Candidates may require little guidance to:</b></p> <ul style="list-style-type: none"> <li>develop creative design thinking using good freehand/presentation sketches and/or computer modelling techniques;</li> <li>illustrate, develop and analyse how the solution may perform, using good annotation and having considered a range of appropriate factors; and</li> <li>develop good working drawing(s) showing the necessary details to enable the prototype to be manufactured.</li> </ul>	(19–27)	<p><b>Candidates work independently to:</b></p> <ul style="list-style-type: none"> <li>develop creative design thinking using excellent freehand/presentation sketches and/or computer modelling techniques;</li> <li>illustrate, develop and analyse how the solution may perform, using excellent annotation and having considered a range of appropriate factors; and</li> <li>develop excellent working drawing(s) showing the necessary details to enable the prototype to be manufactured.</li> </ul>	(28–35)

Development of Proposed Concepts: Modelling and Testing (cont.)								
	<p><b>Candidates may require considerable guidance to:</b></p> <ul style="list-style-type: none"> <li>produce scaled physical model(s) or mock-up(s) of the potential solution which convey(s) limited understanding of the product's form and function; and</li> <li>produce limited evidence of testing <b>and evaluation of</b> the model(s) or mock-up(s) to check if it is a feasible proposal to manufacture, and modify as necessary.</li> </ul>		<p><b>Candidates may require some guidance to:</b></p> <ul style="list-style-type: none"> <li>produce scaled physical model(s) or mock-up(s) of the potential solution which convey(s) satisfactory understanding of the product's form and function; and</li> <li>produce some evidence of testing <b>and evaluation of</b> the model(s) or mock-up(s) to check if it is a feasible proposal to manufacture, and modify as necessary.</li> </ul>		<p><b>Candidates may require little guidance to:</b></p> <ul style="list-style-type: none"> <li>produce scaled physical model(s) or mock-up(s) of the potential solution which convey(s) good understanding of the product's form and function; and</li> <li>produce good evidence of testing <b>and evaluation of</b> the model(s) or mock-up(s) to check if it is a feasible proposal to manufacture, and modify as necessary.</li> </ul>		<p><b>Candidates work independently to:</b></p> <ul style="list-style-type: none"> <li>produce scaled physical model(s) or mock-up(s) of the potential solution which convey(s) excellent understanding of the product's form and function; and</li> <li>produce excellent evidence of testing <b>and evaluation of</b> the model(s) or mock-up(s) to check if it is a feasible proposal to manufacture, and modify as necessary.</li> </ul>	
<b>Award zero marks for work not worthy of credit.</b>								

