



# Materials Design and Technology ATAR course practical (portfolio) examination marking key

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2023

Marking keys are an explicit statement about what the examining panel expect of candidates in the practical (portfolio) examination. They are essential to fair assessment because their proper construction underpins reliability and validity.

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## Materials Design and Technology ATAR course practical (portfolio) marking key

100% (45 marks)

Description	Marks
<b>Criterion 1: Statement of intent</b>	
Provides detailed descriptions of the design problem or situation to be solved using a comprehensive list of client requirements, all considerations and constraints, design fundamentals and performance criteria.	5
Clearly describes the design problem or situation to be solved using an itemised list of client requirements, major considerations and constraints, design fundamentals and performance criteria.	4
Describes the design problem or situation to be solved using a list of client requirements, some considerations and constraints, design fundamentals and performance criteria.	3
Identifies the design problem or situation to be solved using a list of general requirements.	2
States the design problem or situation.	1
<b>Subtotal</b>	<b>5</b>
<b>Criterion 2: Evidence of research</b>	
Provides a comprehensive summary analysis of all relevant research undertaken to develop a solution to the problem or situation.	5
Provides a detailed summary analysis of relevant research undertaken to develop a solution to the problem or situation.	4
Provides a summary analysis of research undertaken to develop a solution to the problem or situation.	3
Provides a brief summary of research undertaken to develop a solution to the problem/situation.	2
Provides evidence of limited research undertaken.	1
<b>Subtotal</b>	<b>5</b>
<b>Criterion 3: Development of concepts and ideas</b>	
<b>Criterion 3.1: Rapid concept sketches</b>	
Provides a wide range of annotated ideas, using technical terminology, exploring whole and/or parts of products. Demonstrates clear relationship between research and concept development, through images and annotations using the statement of intent. Shows evidence of ongoing client consultation.	5
Provides a range of annotated ideas, using some technical terminology, exploring whole and/or parts of products using the statement of intent. Shows evidence of ongoing client consultation.	4
Provides annotated ideas, using some technical terminology, exploring whole and/or parts of products. Shows some evidence of client consultation.	3
Provides annotated ideas, exploring whole and/or parts of products. Shows some evidence of client consultation.	2
Provides limited ideas, exploring whole and/or parts of products.	1

Description	Marks
<b>Criterion 3.2: Design development</b>	
Generates four detailed design ideas that build upon the rapid concept sketches showing a progression towards a solution. Shows evidence of ongoing client consultation with justification of ideas using the statement of intent.	6
Generates three detailed design ideas that build upon the rapid concept sketches showing a progression towards a solution. Shows evidence of ongoing client consultation with justification of ideas using the statement of intent.	5
Generates three to four design ideas that build upon the rapid concept sketches showing a progression towards a solution. Ongoing client consultation with some justification of ideas using the statement of intent.	4
Generates design ideas that build upon the rapid concept sketches. Explanation of ideas using the statement of intent or client feedback.	3
Generates and describes design ideas.	2
Generates design ideas.	1
<b>Criterion 3.3: Justification of final design</b>	
Provides a comprehensive justification of the final design concept using the statement of intent and client consultation.	3
Provides a justification of the final design concept using the statement of intent and some client consultation.	2
Identifies and explains the final design concept using the statement of intent or client consultation.	1
<b>Subtotal</b>	<b>14</b>
<b>Criterion 4: Production documents</b>	
<b>Criterion 4.1: Drawings</b>	
Provides detailed, accurate context appropriate rendered 3D presentation and 2D working drawings with relevant annotation, technical information and dimensions/measurements to produce the final product.	5
Provides context appropriate 3D and 2D drawings with some relevant annotation, technical information or dimensions to produce the final product.	4
Provides context appropriate 3D or 2D drawings with some annotation, some technical information or dimensions to produce the final product.	3
Provides context appropriate drawings with few annotations, some technical information or dimensions to produce the final product.	2
Provides drawings with limited information to produce the final product.	1
<b>Criterion 4.2: Materials</b>	
Provides a detailed and accurate materials list for the product, including all components and consumables of the designed product with cost calculations.	5
Provides a detailed materials list for the product, including most components and consumables with cost calculations.	4
Provides a materials list for the product, including some components and consumables with some cost calculations.	3
Provides a materials and consumables list with partial cost calculations.	2
Provides a materials list.	1

<b>Criterion 4.3: Planning</b>	
Provides a sequential, logical and appropriate production plan.	3
Provides a sequential production plan.	2
Provides steps for the production.	1
<b>Subtotal</b>	<b>13</b>
<b>Criterion 5: Visual evidence of production</b>	
Provides annotated photographic evidence showing all views of the final product, clear annotated photographic evidence showing all features of the final product.	3
Provides some annotated photographic evidence showing views and some features of the final product.	2
Provides limited photographic evidence of the product.	1
<b>Subtotal</b>	<b>3</b>
<b>Criterion 6: Evaluation</b>	
Provides a comprehensive and critical evaluation report of the design and production process, an explanation of the problems identified and the solutions proposed or applied, and an evaluation of the product against the statement of intent.	5
Provides a detailed evaluation report of the design and production process, an explanation of the problems identified and the solutions proposed or applied, and an evaluation of the product against the statement of intent.	4
Provides an evaluation report of the design and production process, an explanation of the problems identified and the solutions proposed or applied, and an evaluation of the product against the statement of intent.	3
Provides an evaluation of the design and production process, and the product, with limited connection to the statement of intent.	2
Provides a limited evaluation of the product and/or the design and production process.	1
<b>Subtotal</b>	<b>5</b>
<b>Total</b>	<b>45</b>

Note: zero (0) will be used for each criterion when there is no evidence demonstrated relating to that criterion.