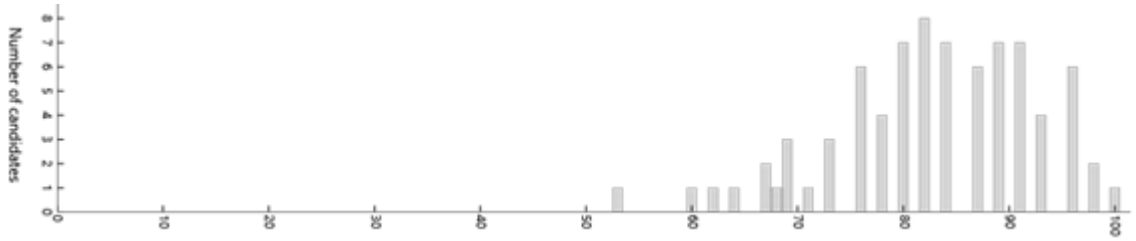
Summary report of the 2024 ATAR course examination report: Materials Design and Technology

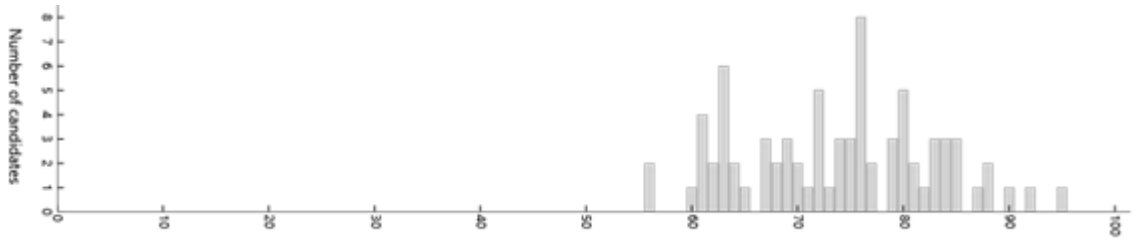
Year	Number who sat all examination components	Number of absentees from all examination components
2024	77	2
2023	136	0
2022	97	0
2021	104	0

The number of candidates sitting and the number attempting each section of the examination can differ as a result of non-attempts across sections of the examination.

Examination score distribution–Practical



Examination score distribution–Written



Summary

The practical examination was attempted by 79 candidates. The written examination was attempted by 77 candidates and almost all candidates attempted every question. The mark allocation over a range of scaffolded and more challenging questions was appropriate for discriminating among responses.

Practical examination

Attempted by 79 candidates	Mean 82.73%	Max 100.00%	Min 53.33%
Section means were:			
Section One: Practical portfolio (Metal)	Mean 84.44%		
Attempted by 16 candidates	Mean 84.44(/100)	Max 100.00	Min 68.89
Section Two: Practical portfolio (Textiles)	Mean 86.85%		
Attempted by 24 candidates	Mean 86.85(/100)	Max 97.78	Min 68.89
Section Three: Practical portfolio (Wood)	Mean 79.49%		
Attempted by 39 candidates	Mean 79.49(/100)	Max 95.56	Min 53.33

Written examination

Attempted by 77 candidates	Mean 73.46%	Max 95.28%	Min 54.63%

Section means were:

Section One: Short answer	Mean 79.95%		
Attempted by 77 candidates	Mean 11.99(/15)	Max 15.00	Min 7.03
Section Two: Extended answer	Mean 74.45%		
Attempted by 77 candidates	Mean 18.61(/25)	Max 23.93	Min 9.64
Section Three: Metal	Mean 68.60%		
Attempted by 15 candidates	Mean 41.16(/60)	Max 51.49	Min 28.78
Section Three: Textiles	Mean 76.18%		
Attempted by 24 candidates	Mean 45.71(/60)	Max 57.97	Min 37.70
Section Three: Wood	Mean 69.52%		
Attempted by 38 candidates	Mean 41.71(/60)	Max 54.73	Min 29.59

General comments

Practical examination

Demonstration of the course content through the design and production process was adeptly managed in all contexts. The projects made by candidates were detailed in design, manufactured to a high standard and finished within the time frame. The accompanying documentation suggested that the projects were a rewarding experience for the designers and their clients. The majority of submissions were commensurate with the published requirements and very well organised. Drawings in Criterions 3 and 4 were of a very high standard, particularly in the Wood context. Evaluations and Evidence of production were detailed and comprehensive across all contexts. Some pages were very dense with information that could have been laid out better to make it more readable. Candidates referenced images and sourced information, despite these being removed from the Marking Key.

Advice for candidates

- Large sections of text should be broken up to make it more intelligible.
- Research needs to be specific to the project. Include the anthropometric data of the client and discuss the necessary ergonomics of their product. Testing/sampling of the joining methods and closures that will be used in the project should be included.
- Images from the research can be included in the concept development to show a clear connection between the research and concepts, as outlined in the Marking Key.
- Detailed illustrations of the joining methods that will be used in the project should be included in the drawings.
- Provide clear documentation of continuous client consultation.

Advice for teachers

- Ensure that students design projects with sufficient complexity to enable depth in their work. Authentic and targeted research, drawing, planning and critical evaluation needs to be discernible.
- Check that client consultation is included in all areas designated by the Marking Key.
- Guide students to make connections between each stage of the design process.

Written examination

Candidates demonstrated sound knowledge and application of common content in Sections One and Two. Across all contexts, strengths were shown in reading and interpreting plans and in making drawings to specific design criteria. When asked to 'discuss' very few candidates provided enough detail or points of view, instead simply describing or explaining.

Advice for candidates

- Understand what is required by the verbs 'describe', 'explain' and 'discuss' and practise writing each type of answer.
- Revise all points in the syllabus.

Advice for teachers

- Cover every point of the syllabus. While the Common content and the Nature and properties of materials are the foundation of the course, the content listed in Materials in context is a rich source for teaching and examining.

Comments on specific sections and questions

Practical examination

Practical portfolio (Metal) (45 Marks)

Overall, the Metal practical examination was completed to a very high standard. Nevertheless, in Criterion 1, there were gaps in client needs and performance criteria. In Criterion 2, research into ergonomics, anthropometric data and the elements and principles of design, relating to the processes needed to make the products, was scarce.

Practical portfolio (Textiles) (45 Marks)

Candidates performed to a very high level in their Textiles practical (portfolio) examination. However, in Criterion 2, there was a lack of research into the processes needed to make the product. In Criterion 3, candidates did not incorporate visual elements from their research directly into their concept sketches. Candidates also needed to provide more technical information in their production plans.

Practical portfolio (Wood) (45 Marks)

Candidates generally worked to a very high standard in the Wood practical (portfolio) examination. In Criterions 1 and 2 though, very little coverage was given to ergonomics and anthropometric data.

Written examination

Section One: Short answer (32 Marks)

Candidates showed sound knowledge of target markets, market research and prototypes. Some answers that did not receive full marks were too vague or repetitive.

Section Two: Extended answer (35 Marks)

Overall, these questions were handled well. Candidates tended not to provide enough relevant detail for Questions 5 and 7.

Section Three: Metal (74 Marks)

Candidates' answers to Questions 9 and 10 lacked depth. In Question 11, spot welding proved to be a weak point and in Question 13, candidates tended to only provide brief points, rather than a full discussion.

Section Three: Textiles (74 Marks)
Overall, questions were well-handled; however, in Question 19, candidates tended to only provide brief points, rather than a full discussion.

Section Three: Wood (74 Marks)
All parts in Question 22 were either not answered correctly or to sufficient depth. In Question 25, candidates only provided brief points, rather than a full discussion. Otherwise, the questions were well-handled by candidates.