

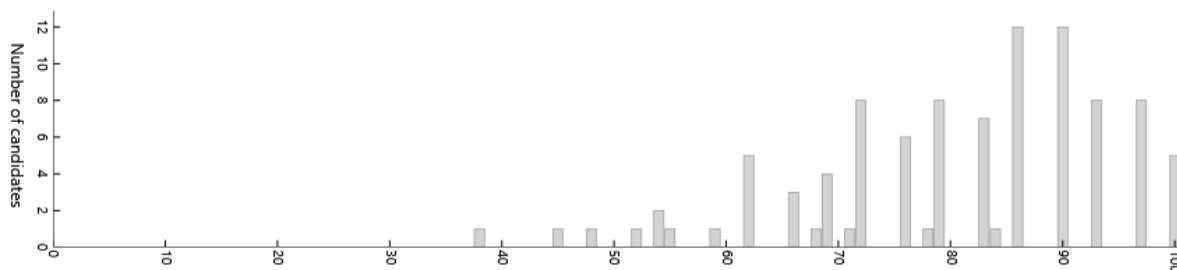


Summary report of the 2022 ATAR course examination report: Materials Design and Technology

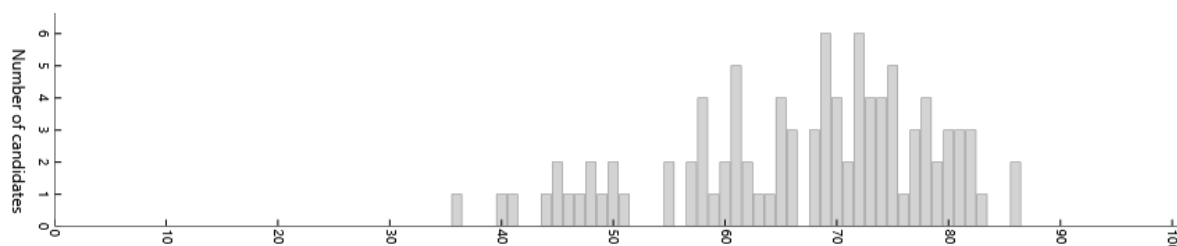
Year	Number who sat all examination components	Number of absentees from all examination components
2022	97	0
2021	104	0
2020	107	1
2019	151	1

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 well structured; candidates displayed a clear understanding of the marking key and how best to approach each criterion. There has been an increase in the overall quality of the candidate submissions. There was no loss of detail, credibility or quality of portfolios with the removal of Criterion 5 for 2022.

The means of the three contexts in the practical examination were commensurate; the Textiles candidates achieved the highest mean of 82.67%, the 12 Metal candidates achieved a mean of 78.74% and the Wood candidates achieved a mean of 78.62%.

The written examination mean was marginally lower than in 2021 and the minimum score was slightly higher. The written examination was strategically structured with a range of questions that ranged from scaffolded to more challenging in each section. The maximum score of 89.29% and minimum 24.33% show a wide distribution of performance. The level of difficulty was appropriate and achieved success in discriminating candidate ability.

In Sections One and Two candidates demonstrated sound knowledge and recall of the common content in the syllabus. Responses to Section Three yielded commensurate mean scores for Wood, Metal and Textiles reflecting examination equity across the three contexts.

Practical examination

Attempted by 98 candidates	Mean 80.33%	Max 100.00%	Min 37.93%
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Section means were:

Practical Portfolio (Metal)	Mean 78.74%		
Attempted by 12 candidates	Mean 78.74(/100)	Max 93.10	Min 55.17
Practical Portfolio (Textiles)	Mean 82.67		
Attempted by 41 candidates	Mean 82.67(/100)	Max 100.00	Min 44.83
Practical Portfolio (Wood)	Mean 78.62%		
Attempted by 45 candidates	Mean 78.62(/100)	Max 100.00	Min 37.93

Written examination

Attempted by 97 candidates	Mean 66.05%	Max 89.29%	Min 24.33%
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Section means were:

Section One: Short answer	Mean 66.71%		
Attempted by 97 candidates	Mean 10.01(/15)	Max 14.03	Min 4.35
Section Two: Extended answer	Mean 67.13%		
Attempted by 97 candidates	Mean 16.78(/25)	Max 23.51	Min 3.57
Section Three: Wood	Mean 64.23%		
Attempted by 44 candidates	Mean 38.54(/60)	Max 47.62	Min 30.00
Section Three: Metal	Mean 65.78%		
Attempted by 12 candidates	Mean 39.47(/60)	Max 50.62	Min 27.75
Section Three: Textiles	Mean 66.62%		
Attempted by 41 candidates	Mean 39.97(/60)	Max 56.25	Min 13.50

General comments

The content of the written examination was appropriate for the time allocated; most candidates completed the examination and had comprehensive responses. The questions covered a broad range of content from the syllabus, each one eliciting different responses. Responses were mostly focussed and appropriate, indicating that the questions were clear and understood by candidates.

In the practical examination the portfolios provided a detailed demonstration of the design process. Projects made by candidates were complex, enabling comprehensive research and documentation of their practical work. The overall standard of the portfolios was high across the three contexts.

The distinction in marks was due to the quantity and depth of information provided for each criterion. Candidates commented on the impact of COVID-19 on their timelines and the difficulty of completing their projects, however, despite this the portfolio work was thorough.

Criterion 1 and Criterion 6 were completed well by most candidates. Criterion 4 was addressed to a consistently high standard across all contexts. The portfolios were not diminished by the absence of Criterion 5 evidence journals; most candidates included photographic evidence of their making process.

There were many instances of incorrect and/or inadequate referencing of images. Candidates sometimes used font sizes that were difficult for markers to read.

The practical marking key appeared to be well understood by most candidates which was evident in the quality of the submissions.

Practical examination

Advice for candidates

- Choose a sufficiently complex project to make that will create opportunities to address every criterion in detail and with critical analysis.
- Read the marking key and use it as a check-list to ensure you are familiar with how the portfolio is assessed.

Advice for teachers

- Encourage students to create projects with sufficient complexity to enable depth in their work. Authentic research, drawing, planning and evaluation is discernible in portfolios.
- Ensure students are familiar with the marking key and how marks are allocated to each criteria.

Written examination

Advice for candidates

- The fundamental content of the course found in the common content of Units 3 and 4 will be examined in Sections One and Two of the written examination.
- As Materials Design and Technology is a practical subject, focused on the production of goods for society, the topics of sustainability, globalisation and green principles are important areas to study.

Advice for teachers

- The topics of sustainability, globalisation and green principles in manufacturing are fundamental to the study of the course. Ensure these concepts are taught and revised in class.

Comments on specific sections and questions

Practical examination

Practical Portfolio (Wood) (29 Marks)

Wood candidates performed well in the practical portfolio examination including providing very detailed responses in the statement of intent and production proposals, particularly for the materials and planning process. Candidates were critical in their evaluation of the final product against the client's needs, design fundamentals and design requirements.

Practical Portfolio (Metal) (29 Marks)

The statements of intent submitted by the Metal candidates for the practical portfolio examination continued to be of a high standard. Candidates clearly linked the final product to their statement of intent, design fundamentals and client's needs.

Practical Portfolio (Textiles) (29 Marks)

The mean of the candidates in the textiles context was the highest of all three contexts. The candidates provided very detailed responses in most areas, in particular in the statement of intent. Evaluations were comprehensive and showed critical analysis of projects and processes.

Written examination

Section One: Short answer (31 Marks)

Candidates achieved a mean of 66.71% for this section. Two areas of content in which students struggled to score highly were risk management plans, Question 2(b), and legal implications for designers, Question 2(c).

Section Two: Extended answer (42 Marks)

Candidates achieved a mean of mean 67.13% for this section. Questions 6 part (a) and 7 posed the greatest challenge to candidates, while Questions 4 and 5 were the most accessible.

Section Three: Wood (80 Marks)

Even though the Wood context had the largest number of candidates it had the lowest mean for this section of 64.23%.

Section Three: Metal (80 Marks)

The overall mean for this section was 65.78%, which was an improvement on last year's mean.

Section Three: Textiles (80 Marks)

Textiles candidates out-performed the other two contexts in this section, with an overall mean of 66.62%.