

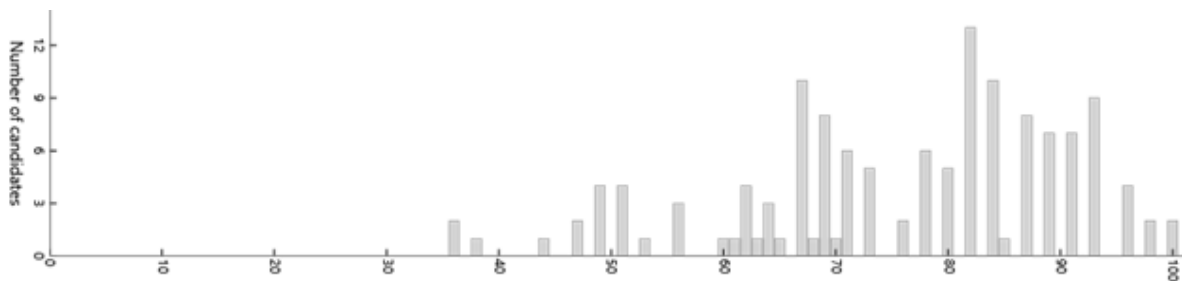


Summary report of the 2023 ATAR course examination report: Materials Design and Technology

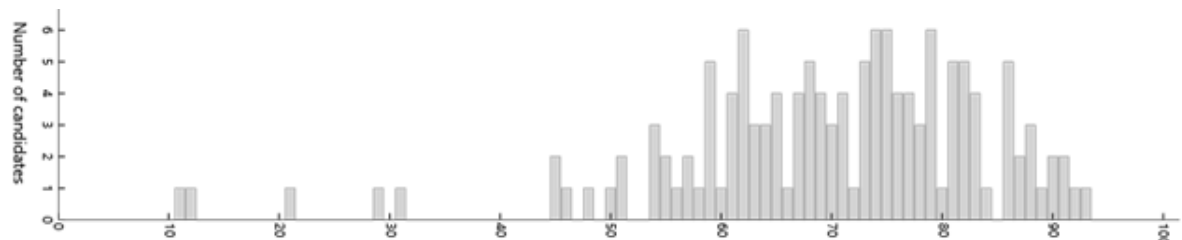
Year	Number who sat all examination components	Number of absentees from all examination components
2023	136	0
2022	97	0
2021	104	0
2020	107	1

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 and written examinations were attempted by 136 candidates. The overall mean score in the practical examination dropped from 2022 by 4.58%, with the mean of Textiles being 0.79% higher than in 2022 and the means of the Metal and Wood contexts being 7.86% and 8% lower, respectively. Maximum scores of 97.78% in Metal, 100.00% in Textiles and 93.33% in Wood, were achieved.

In the written examination, most candidates attempted all questions indicating that the length of the paper was suitable for the time given. The mark allocation over a range of scaffolded and more challenging questions was appropriate for discriminating between responses. The maximum score was 91.74% and the minimum score was 8.27%, which shows a wide distribution of performance. Candidates demonstrated knowledge and application of the common content examined in Sections One and Two. In Section Three, the mean score of Wood was reduced by some very low minimum scores, while Metal was consistent with 2022 and Textiles was higher due to higher minimum scores.

Practical examination

Attempted by 136 candidates Mean 75.75% Max 100.00% Min 35.56%

Section means were:

Practical portfolio (Metal)	Mean 70.88%		
Attempted by 19 candidates	Mean 70.88(/100)	Max 97.78	Min 46.67
Practical portfolio (Textiles)	Mean 83.46%		
Attempted by 54 candidates	Mean 83.46(/100)	Max 100.00	Min 35.56
Practical portfolio (Wood)	Mean 70.62%		
Attempted by 63 candidates	Mean 70.62(/100)	Max 93.33	Min 35.56

Written examination

Attempted by 136 candidates Mean 69.47% Max 91.74% Min 8.27%

Section means were:

Section One: Short answer	Mean 80.09%		
Attempted by 136 candidates	Mean 12.01(/15)	Max 15.00	Min 1.00
Section Two: Extended answer	Mean 68.09%		
Attempted by 136 candidates	Mean 17.02(/25)	Max 23.40	Min 0.64
Section Three: Metal	Mean 66.12%		
Attempted by 19 candidates	Mean 39.67(/60)	Max 47.25	Min 25.50
Section Three: Textiles	Mean 74.63%		
Attempted by 54 candidates	Mean 44.78(/60)	Max 57.75	Min 23.62
Section Three: Wood	Mean 61.58%		
Attempted by 62 candidates	Mean 36.95(/60)	Max 50.62	Min 0.00

General comments

Practical examination

Most candidates worked comfortably within the revised 40-page limit for the portfolio, with many presenting high-quality submissions on fewer than 40 pages. Submissions by the majority were commensurate with the published requirements and were well-organised. There were a small number of submissions with pale pencil drawings that were difficult to mark. The elimination of the journal component from the marking key reduced the duplication of work previously required and improved the cohesiveness of portfolios. Many design requirements discussed in the statements of intent were not covered in Criterion 2: Evidence of research. Candidates generally failed to link their research to the client requirements, constraints, or performance criteria. The quality of production documents in Criterion 4 was high across all three contexts. Candidates wrote very detailed production plans however, some included details about time, safety, and equipment which were not specified in the marking key.

Written examination

Candidates demonstrated strong knowledge and application of the principles and elements of design and the design fundamentals in Section One. Very few candidates could appropriately formulate a discussion in response to the questions that required one (Questions 7, 13, 19 and 25), so did not achieve the highest marks available. In Section Three, some of the more specific syllabus content challenged candidates and the discrimination of ability was clear. The quality of sketching in response to Questions 10, 16 and 22 was excellent, but candidates lacked detail in their annotations.

Practical examination

Advice for candidates

- Choose a sufficiently complex project to make that will create opportunities to address every criterion in detail and support critical analysis.
- Use the marking key as a checklist to ensure you have addressed all requirements.
- For Criterion 2, all items of research need to link to the design needs set out in the statement of intent and to the design fundamentals. Research could include environmental impacts, sustainability, anthropometric data, ergonomics of related products, and appropriate embellishment and decorative techniques. Research of materials for a project needs to show how the properties, price and availability of materials meet the stated design needs. General information about fabric, metal or timber achieves lower marks.
- For Criterion 3, it is recommended to include images and annotations that tie the concept development back to the research and statement of intent. Evidence of client consultation reflecting on the design needs outlined in the statement of intent is essential.
- For Criterion 6, it is important to provide a comprehensive and detailed report of both the design and the production process, and to compare the final product against the client's needs, as well as to the considerations and constraints set out in the statement of intent.

Advice for teachers

- Teach all content listed in the syllabus.
- Encourage students to create projects that have sufficient complexity to enable depth in their work and to conduct authentic and targeted research.
- For Criterion 2, ensure that students link research to the design needs and fundamentals set out in the statement of intent.
- For Criterion 3, students should develop specific parts of their project. Emphasise that drawings and annotations should tie the concept development back to the research and statement of intent.

Written examination

Advice for candidates

- The common content of Units 3 and 4 is essential content that will be examined in Sections One and Two of the written examination and so should be well-revised, particularly the design fundamentals and the elements and principles of design.
- Materials Design and Technology is a practical subject focused on the production of goods for society. Integral to this is information about environmental impact, and how to minimise it.

Advice for teachers

- Review the syllabus content regularly and plan to cover every content point listed. While the common content and the nature and properties of materials are the foundation of the course, all areas of the context-specific content needs to be addressed in teaching and assessment.
- Ensure that information about environmental impact, and how to minimise it, is taught and revised in class.

Comments on specific sections and questions

Practical examination

Practical portfolio (Metal) (45 Marks)

Criterion 1 was the weakest area for Metal candidates in 2023. Evidence of research was not comprehensive, or linked back to the statement of intent well, and evaluations lacked detail. However, candidates' visual evidence of their production was of an excellent standard.

Practical portfolio (Textiles) (45 Marks)

Statements of intent were of an excellent standard. Evidence of research was not comprehensive and required greater evidence of client consultation. Candidates' sketching skills were strong, as was their production documentation, visual evidence of production, and evaluations.

Practical portfolio (Wood) (45 Marks)

Criterion 1 was addressed with little detail and evidence of research was not comprehensive. Candidates' responses to Criterion 3 tended to be detailed, rather than rapidly produced, as per the new directives, which resulted in a mean of 64%. Visual evidence was provided to an excellent standard, but with a mean of 60% Criterion 6 was an area in which Wood candidates could improve.

Written examination

Section One: Short answer (30 Marks)

Candidates achieved a mean of 80.09% for this section. Candidates demonstrated a strong understanding of design fundamentals and performance criteria in Question 3, but struggled slightly with Question 1, which was on the design process and trends.

Section Two: Extended answer (39 Marks)

Candidates achieved a mean of 68.09% for this section. Question 4 posed the greatest challenge to candidates, while Questions 5 and 6 were the most accessible.

Section Three: Wood (80 Marks)

Wood had the lowest mean of 61.58%. Candidates responded well to Questions 8 and 10 (means of 67%), but struggled with Question 12, which had a mean of 49.40%.

Section Three: Metal (80 Marks)

Metal had a mean of 66.12%, with candidates responding to Question 14 the most successfully (mean of 74.93%) and Question 18 the least successfully (mean of 52.30%).

Section Three: Textiles (80 Marks)

Textiles had the highest mean at 74.63%. Candidates responded most successfully to Question 20 with a mean of 87.13%, while they found Question 21 challenging, with a mean of 54.53%.