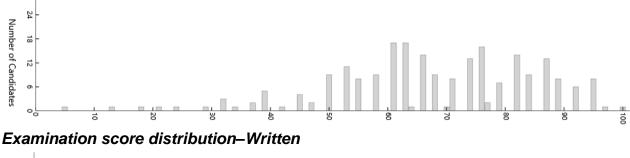


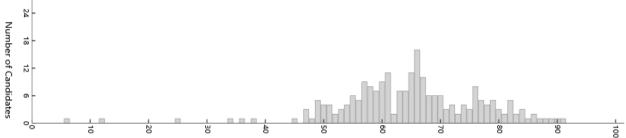


Summary report of the 2016 ATAR course examination: Materials Design and Technology

Year	Number who sat all examination components	Number of absentees from all examination components
2016	213	2

Examination score distribution–Practical





Summary

The overall standard of the examination improved, with less zeros being recorded in the written examination. In 2016 the practical (portfolio) examination was submitted electronically for the first time and this has allowed the candidates to produce a more cohesive portfolio of work. The referencing of images and data is more consistent and of a higher standard in the practical (portfolio) examination submissions.

The broad range of projects being produced by candidates exemplifies the success of the design process in developing both knowledge and skills in each context. The process is accessible to candidates of all abilities, and the improved level of achievement indicates that teacher expertise in facilitating the design process and producing a portfolio record is increasing.

There were pleasing improvements in the overall mean for candidates in the Wood context although those in the Metal context also showed an increase. Two issues were identified in the Textiles section where it appeared that some candidates did not have enough knowledge of manufactured fibres (Question 18) and the different types of CAD/CAM (Question 22).

Practical examination

Attempted by 219 candidates	Mean 67.80%(/100) Max 100.00% Min 5.26%		
Section means were: Practical Portfolio (Metal) Practical Portfolio (Textiles) Practical Portfolio (Wood)	Mean 60.10(/100) Mean 77.09(/100) Mean 62.86(/100)	Max 100.00 Max 94.74 Max 97.37	Min 5.26 Min 39.47 Min 18.42

Written examination

Attempted by 213 candidates

Mean 64.39%(/100) Max 90.86% Min 8.06%

Section means were:			
Section One: Short answer	Mean 10.87(/15)	Max 15.00	Min 3.00
Section Two: Extended answer	Mean 16.83(/25)	Max 23.31	Min 2.03
Section Three: Wood	Mean 37.26(/60)	Max 53.28	Min 14.33
Section Three: Metal	Mean 37.19(/60)	Max 55.52	Min 8.06
Section Three: Textiles	Mean 36.14(/60)	Max 48.81	Min 19.25

General comments

The weakest area across all contexts was Criterion 2 Research and Criterion 3 Development of ideas and concepts in the practical (portfolio) submission. In Wood and Metal many candidates included a range of research topics, however failed to justify their selection or did not analyse properly. When designing their concepts the candidates did not explore alternate concepts, and failed to annotate or analyse alternatives using the design fundamentals. Frequently the justification for the choice of the final design was omitted, which cost candidates marks.

Practical examination

Advice for candidates

- Don't restrict yourself in the Statement of Intent with choices of materials and finishes.
- Cover all the Design Fundamentals thoroughly.
- Ensure all of your research work includes the justifications of your choices.
- When analysing be sure to explore the products in depth and not to rely on traditional Plus Minus Interesting (PMI) methods.
- Show more detail in your concept development and ensure work is outlined and/or coloured. Pencil sketches can often be messy and difficult to read.
- Justify/explain your choices in the development and solution drawings.
- In your design and research work ensure you are clearly referring to the Design Fundamentals.
- Ensure working drawings are detailed and show all main parts, sizes and joining methods.
- Ensure production plans/journals are easy to follow; perhaps use a template that fits on individual pages.
- Keep an accurate record of your production process and label clearly any changes made.
- When completing your evaluation ensure you refer back to the Statement of Intent and Design Fundamentals.

Advice for teachers

- Practical (portfolio) submissions must be submitted with all pages included as one complete PDF and not a series of single pdf's of each page or a word document which can change depending on the machine it is opened on. This will save time during the marking process and will ensure consistency of viewing the portfolio.
- Ensure students pick projects that are going to give them the chance of producing a comprehensive portfolio.
- Ensure students do not restrict themselves in their Statements of Intent.
- Avoid using Plus Minus Interesting (PMI) charts in the research. Students who use this technique often fail to talk about any of the Design Fundamentals in their research.
- Do not waste pages of research by filling them with images of machinery and tools.
- Ensure students finish their research by showing that they understand what they have researched through justifying their choices.

- Student sketching techniques need improving and ensure that they show clearly the stages of progression (initial concepts, concept development and solution drawing) through the drawings of their designs.
- Insist that students use annotations which will demonstrate that they understand why things are being used throughout their design development.
- Ensure students are keeping an accurate journal during the production of their projects.

Written examination

Advice for candidates

- Read all questions carefully.
- Re-read answers and questions together to ensure that you have answered the requirements of the question and that you have not been misinterpreted what is required.
- Use examples to support statements where appropriate.
- Do not repeat the question in your answer as this leads to the repeating of information that does not receive marks being included in your answers and which wastes time.
- Create subheadings to answer essay questions. Highlight or underline keywords in the questions to help clarify the requirements of the question. Either create dot points to answer the question under each subheading, or highlight key points. This helps to avoid repeating points and will prevent time being wasted by repeating information.

Advice for teachers

- Ensure students know how to layout responses,
- Promote the use of highlighters/underlining to highlight keywords in questions.
- Encourage students to take the time to read and understand the question before answering.
- Students must write as neatly and legibly as possible.
- Encourage students to use the additional spare pages at the back of the Question/ Answer booklet for note taking or breaking down a question.
- Teach students what new and emerging materials are so that they have a clear understanding of these.

Comments on specific sections and questions

Some candidates submitted the practical (portfolio) in 60 separate pdf's - the portfolio should be in one complete pdf which contains all of the pages.

Practical examination

Practical Portfolio (Metal)

Attempted by 31 candidates Mean 60.10%(/100) Max 100.00% Min 5.26% In general there was an improvement in the Metals portfolios which was excellent. The portfolios also showed some innovation in designs which is a welcome change to submissions from past years.

Practical Portfolio (Textiles)

Attempted by 82 candidates Mean 77.09%(/100) Max 94.74% Min 39.47% Textiles candidates achieved an excellent mean for the practical (portfolio) submission.

Practical Portfolio (Wood)

Attempted by 106 candidates Mean 62.86%(/100) Max 97.37% Min 18.42% Wood candidates achieved a good result in general in the practical (portfolio) submission.

Written examination

Attempted by 213 candidates

Mean 64.39%(/100) Max 90.86% Min 8.06%

Section One: Short answer Attempted by 212 candidates	Mean 10.87 (/15)	Max 15.00	Min 3.00
Section Two: Extended answer Attempted by 212 candidates	Mean 16.83 (/25)	Max 23.31	Min 2.03
Section Three: Wood Attempted by 101 candidates	Mean 37.26(/60)	Max 53.28	Min 14.33
Section Three: Metal Attempted by 31 candidates	Mean 37.19(/60)	Max 55.52	Min 8.06
Section Three: Textiles Attempted by 81 candidates	Mean 36.14(/60)	Max 48.81	Min 19.25