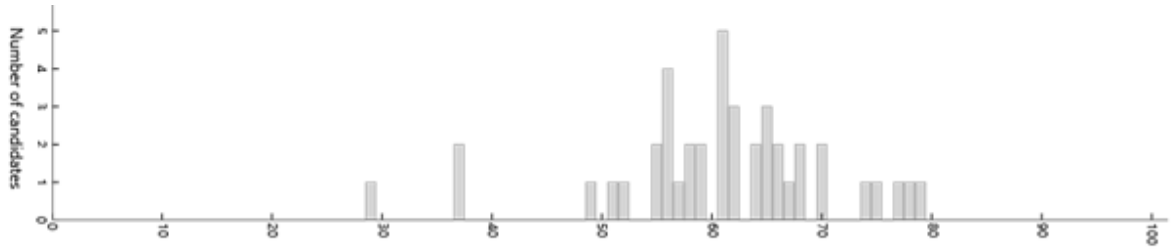
Summary report of the 2020 ATAR course examination: Integrated Science

Year	Number who sat	Number of absentees
2020	42	0
2019	68	3
2018	79	0
2017	86	7

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–Written



Summary

The examination provided questions covering wide-ranging points of the syllabus and an opportunity for candidates to demonstrate understanding by being able to complete the examination in a range of levels of competency. The examination appeared to have been of appropriate length and provided a range of questions at varying difficulty that encouraged candidates to attempt the majority of questions with a level of confidence.

Attempted by 42 candidates	Mean 60.74%	Max 78.96%	Min 28.66%
Section means were:			
Section One: Multiple-choice	Mean 79.17%		
Attempted by 42 candidates	Mean 15.83(/20)	Max 20.00	Min 10.00
Section Two: Short response	Mean 55.03%		
Attempted by 42 candidates	Mean 27.52(/50)	Max 39.67	Min 6.52
Section Three: Extended response	Mean 57.97%		
Attempted by 42 candidates	Mean 17.39(/30)	Max 25.24	Min 7.14

General comments

Candidates demonstrated understanding of core syllabus content from Science Understanding and Science Inquiry Skills in both Unit 3 and Unit 4. Candidates showed very good understanding of Science Inquiry Skills, such as graphing, interpretation of data, food chains, production of electricity, heat capacity of water, the stages of a four-stroke engine and the similarities and differences between electric motors and internal combustion engines. However, candidates found difficulty, and did not achieve as well, on questions covering the syllabus in these areas: hydrogen fuel cells, water catchment areas and the management of these, osmoregulation and gas exchange in fish, effect of temperature on density and transfer of energy through the ecosystem.

Advice for candidates

- Read questions carefully and ensure you understand what the question is asking, and provide answers that specifically address each question.
- When asked to provide two or more points about a particular aspect, ensure each point is distinctively different.

Advice for teachers

- Examine past examination papers to assist in understanding the extent to which each syllabus point should be taught.
- Expose students to past examinations and examination marking keys, possibly modelling exemplary answers in comparison to satisfactory answers.
- Direct your students to the glossary included with the syllabus document to familiarise students with the specific scientific terms used in the examination.

Comments on specific sections and questions

Section One: Multiple-choice (20 Marks)

The Multiple-choice section of the examination was the most successfully answered section of the examination. All candidates completed every question in this section, with a mean of 79.17%. Questions 1, 4, 5, 7, 10, 12, 13 and 16 were the most successfully completed with over 90% identifying the correct answer. Questions 2, 3, 9 and 15 were more challenging questions, with less than 60% of candidates answering each correctly.

Section Two: Short response (92 Marks)

With a mean of 55.03%, performance in this section has improved from last year's 48.77%. Most candidates attempted all question parts in this section. Although questions in this section challenged candidates, it provided opportunities for most to score marks in question parts throughout the section. The highest mean was achieved on Question 23 (65.75%), with candidates demonstrating a sound understanding of energy forms and work. Generally, candidates showed limited understanding of gas exchange in aquatic organisms.

Section Three: Extended response (63 Marks)

Most candidates attempted to engage with all parts of the two extended response questions. Candidates were a little more successful with this section compared to Section Two. The mean of 57.97% showed that many candidates were able to demonstrate an understanding of the material presented. Graphing skills of candidates are well practiced, as was evident in Question 26. While candidates were able to identify features, stage, strategies, etc. across both questions, they struggled with providing sufficient detail to receive full marks for their descriptions and explanations.