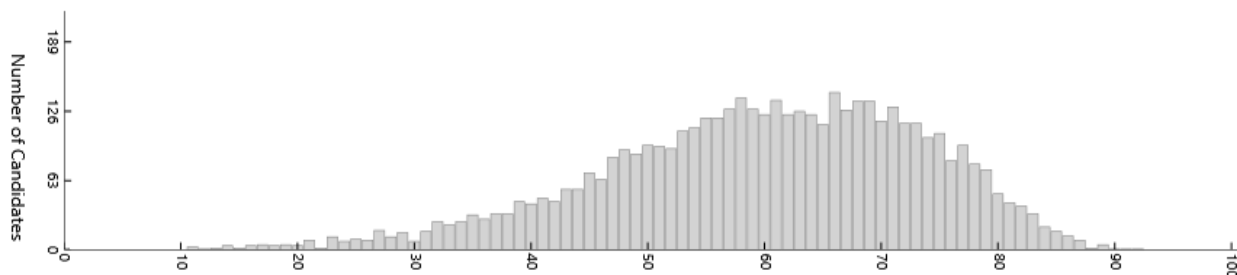




## Summary report of the 2016 ATAR course examination: Human Biology

Year	Number who sat	Number of absentees
2016	4709	85

### Examination score distribution



### Summary

This year's examination was attempted by 4709 candidates who achieved an overall mean of 59.70%. The paper discriminated, producing scores ranging from 0.00% to 91.55%. The standard deviation was 13.83%. The reliability of the examination was 0.82. Most candidates (99%) attempted the last questions, indicating that the paper was of an appropriate length.

Section means were:

Section One: Multiple-choice	Mean 21.95(/30)	Max 30.00	Min 0.00
Section Two: Short answer	Mean 26.67(/50)	Max 45.00	Min 0.48
Section Three: Extended answer	Mean 11.21(/20)	Max 19.00	Min 0.00

### General comments

The mean of 59.70% for the whole paper was very pleasing. Mean scores in all three sections of the paper were above 50%, with Section One: Multiple-choice having the highest mean of all. Section Two: Short answer and Section Three: Extended answer both had similar mean scores, with Section Two: Short Answer proving to be the more difficult slightly.

### Advice for candidates

- Read questions fully and ensure you understand the meaning of operational verbs used in the question. Learn the difference between a question requiring you to 'name', 'state' or 'identify' to one requiring you to 'outline', 'describe' or 'explain'.
- If information is stated in the question or provided in the data, no points will be awarded for restating the same information in your answer.
- In Section Three: Extended answer the most thorough and complete answers were produced by candidates who had completed a plan. Taking the time to plan your answer and ensure all parts of the question will be addressed is an essential examination technique.
- When questions state a numerical value of responses required (e.g. provide two examples), you must ensure you write only that number of responses. When more than the number of responses required are provided, only the required number of responses will be marked. You should always write your best answer first.
- Where possible present annotated diagrams, charts or tables to construct responses to Section Two: Short answer and Section Three: Extended answer questions.

### Advice for teachers

- While the syllabus for ATAR Human Biology has only had small changes from the previous Stage 3 WACE syllabus, teachers need to ensure they are up-to-date with the current syllabus. There are several alterations to the syllabus and the teaching and learning program should reflect that. One change that should be highlighted is the syllabus points on hominid evolution. In the previous Stage 3 WACE course the syllabus focused on the evolutionary trends. The new syllabus has a much more explicit dot point stating the need for knowledge on the fossil specimens of a listed number of hominid species. As such a more detailed knowledge of hominid evolution must be covered.
- The textbook written by Newton and Joyce has long been the most favoured and preferred for Human Biology teaching in Western Australia. However, teachers should be reminded that the textbook is not the syllabus. Some sections of the textbook reflect the previous Stage 3 WACE syllabus more than the current ATAR syllabus. Teachers should supplement their teaching and learning with other references and resource materials beyond the Newton and Joyce textbook.
- Students need to be given ample practice at answering extended response questions and in breaking down a question to identify what the question asks of them.

### Comments on specific sections and questions

Items in Section One: Multiple-choice worked very well. Mean scores in Section One: Multiple-choice ranged from 41.50% to 96.37%. Section Two: Short answer was the most challenging section of the paper, with the lowest overall mean. In Section Two: Short answer the means ranged from 45.78% to 72.15%. In Section Three: Extended answer, candidates performed well on Questions 40 and 41, but found Question 42 more difficult.

#### Section One: Multiple-choice

Attempted by 4709 candidates                                  Mean 21.95(/30)      Max 30.00      Min 0.00

Section One: Multiple-choice had an overall mean of 73.15%. Generally, questions were answered well with only Questions 1, 3, 9 and 12 having means below 50%. In Question 1 candidates needed to identify that sneezing and swallowing are controlled by the medulla. A significant number of candidates incorrectly thought that these actions were controlled by the cerebrum. Question 3 proved problematic for many candidates, with a mix of responses. It appears that many candidates lacked the ability to recall the fossil features of *Paranthropus robustus*. Question 9 required candidates to select the best definition of speciation. Several candidates selected the last alternative simply because the word species was in it but alternative (c) was the best answer. Question 12 proved to be tricky for candidates. The question asked for which period the fossil specimen was dated in, the word period was not treated by some candidates as the time scale, even though it was written with a capital letter in the question. Instead of selecting the time period of the fossil specimen, candidates choose the answer that indicated the time epoch the fossil specimen was dated to.

Questions 2, 8, 10, 14, 15, 17, 18, 21 and 24 were the easiest with means all above 85%. As expected, candidates performed well on straight forward recall style questions and found the more complex, multi-step questions challenging.

#### Section Two: Short answer

Attempted by 4706 candidates                                  Mean 26.67(/50)      Max 45.00      Min 0.48

Section Two: Short answer had an overall mean of 53.35%. Questions 31, 32, 35, 36 and 39 all had means above 50%, while Questions 33, 34, 37 and 38 had means below 50%. The hardest question in Section Two: Short answer was Question 37. Generally, candidates demonstrated a good recall of facts and general knowledge in most questions. Many candidates struggled with the questions that required them to provide detailed explanations rather than just simple descriptions.

**Section Three: Extended answer**

Attempted by 4663 candidates

Mean 11.21(/20)

Max 19.00

Min 0.00

Section Three: Extended answer had an overall mean of 56.06%. Question 41 was the most successfully answered question with a mean of 62.98%. Question 42 proved to be the most challenging with a mean of less than 50%. Generally, the answers provided in the Section Three: Extended answer were pleasing and showed improvement in writing style from previous examinations. Candidates who showed proof of structured planning and attempted to answer the questions with the aid of tables and annotated diagrams performed better than those that did not.