

May 2018 extended essay reports

Computer science

Overall grade boundaries

Grade:	E	D	C	B	A
Mark range:	0-6	7-13	14-20	21-26	27-34

The range and suitability of the work submitted

The essays covered, as always, a wide range of topics, the majority of which were appropriate for computer science, although a few would have been better placed as an ITGS registration. Each year there are “popular” topics dictated in part by current events and by the computer science case study for that year. This year, machine learning, neural networks and encryption featured highly.

There is a marked move towards the use benchmarking or the use of readily available algorithms for the testing of, again, readily available datasets. This approach can often lead to unambitious essays in which the source material does most of the work for the student thus reducing the student’s own contribution.

Candidate performance against each criterion

In general, the change of criteria should be viewed positively as the new criteria focus better on the qualities that we wish for from a good research essay.

Criterion A: focus and method

Only few students produced a detailed enough “introduction”. Some context was generally given, but the methodology was not always explicitly described and in many cases, the purpose for the choice of research question (the worthiness of the research) was only vaguely alluded to. With regards to sources, as expected, the good essays identified a suitable range of sources.

Criterion B: knowledge and understanding

Too many students failed to expand on their source material and apply it in a way that helped demonstrate a solid understanding of their topic. Some computer science topics (e.g. quantum theory) are too difficult and should be avoided. There were others who only dealt superficially with computer science which, for a research essay, should go far beyond the material delivered as part of the basic computer science course. This goes back to school preparation for the extended essay. It needs to be emphasized that the essay is not just about

researching and assembling correct information about a topic, but about showcasing the students' own understanding and critical thinking skills.

Criterion C: critical thinking

This criterion is entitled "Critical thinking" but high-scoring essays in this criterion were unfortunately in short supply. The majority of students were too reliant on paraphrased source material to deliver their argument. Many set out with an already established point of view and chose to make claims to back up that view – claims that were largely unsupported. Once again, the choice of research question is paramount as the RQ needs to be arguable from both points of view in order to allow a critical analysis to take place. There were, though, some excellent examples where students had gone to great lengths to point out the possibility of alternative viewpoints and conclusions. These students also chose to honestly evaluate the limitations of their own research.

Criterion D: presentation

Formatting seems to be something overlooked by a number of candidates and schools. The level of proof-reading is often unsatisfactory. Diagrams should not be included unless they are clear, useful and labelled. The title page requirements were often overlooked.

Criterion E: engagement

Reflections tended to be mainly descriptive with some weak attempt to analyse and evaluate. Students need to focus on the important moments that have happened during the process. Several forms showed all three sessions taking place at the same time, indicating perhaps that the form had been completed retrospectively rather than actively and organically as the student's journey developed. Some other RPPFs were missing one or more reflections. Recommendations for the teaching of future candidates.

Schools move too quickly past the initial stages of the extended essay process, in particular the development of a suitably focused research question. It was noticeable, although unsurprising, that many of the interim reflections referred to the changing of the RQ and, in some cases, to an entirely different topic.

Also too many schools leave it to the supervisors to tutor the students in the many, varied, aspects that lead to a good research essay, whereas they should have been well-prepared in these areas in the months prior to the start of the extended essay process as part of general research skills.