

frequently received complaints

AND MY EXPLANATIONS

Q1 The structure of the exam is stupid: we should not get tested with multiple choice questions but with classical questions instead!

The format of the exam is by no means chosen randomly. I agree that it has certain cons and it is debatable if the pros are sufficient to justify it. I thoroughly discuss all of these in this document here: https://soneralbayrak.com/teaching/files/Teaching_methodology.pdf

I am genuinely open to discussion and if you present me a logical & persuasive argument to change the format of the exams and if that argument takes into account all the discussion in that document, I am willing to do it! Otherwise, suggestions that do not engage with the points in that document will unfortunately not be actionable.

Q2 The grading of questions is not fair! Even if I do everything correctly, I still can not get the point if I make a single tiny sign error somewhere!

We should first set our terminology straight: an exam question is unfair if it is easier for a particular group of students defined with respect to a trait irrelevant to the course or the exam. For instance, the question would be unfair if it is easier for Turkish students, or if it is easier for male students. If two students solve a question almost identically, but one gets the right answer (hence the positive grade) and the other gets the wrong answer (hence the negative grade) just because the latter student made a sign error at the last calculation, this doesn't indicate unfairness but rather difficulty. A difficult question can still be perfectly fair as long as everyone is evaluated by the same standards.

Q3 I understand that we are not supposed to make sign errors and arithmetic mistakes, but it is challenging to recognize these errors under exam pressure. Therefore, it is unfair that we get punished for this!

This concern is essentially the same as in **Q2**, so the fairness discussion there applies equally here. I would only like to add the following.

An exam does not measure only your technical ability to solve a problem; it also evaluates the broader academic skills that a physics undergraduate is expected to develop on the way to a degree. These include **time management**, **stress management**, and a **systematic working habit** such as checking intermediate steps, verifying signs, and revisiting earlier questions.

Being rewarded for demonstrating these skills, or losing points when they are absent, is not unfair—it is part of what higher education is designed to assess.

Q4 This question on this exam was asked in a previous exam: this is not fair because those students who memorized the solutions get an unfair advantage!

Fairness is about systematic disadvantage (see my explanation in **Q2**): all of you had access to those questions, therefore there is no issue of fairness here! On the contrary, I see it as follows: *students who studied on the available material (including previous examinations) get the deserved advantage if the same question comes up!*

Q5 Even though we were responsible for everything up to the exam date (let's say topics *A* and *B*), the questions were only from some of the topics (say *A*): we spent all this time studying *B*, and those student who were only good at *A* got an unfair advantage!

I partially agree: some students might get lucky in a given exam if the exam questions turn out to be only from the topics that they are good at. Likewise, another student can get unlucky if all questions are from the topics that they could not have the time to study for! Similarly, a student might get very lucky if an exam question turns out to be just like a similar question which they had solved just before the exam!

The way I see it, there is an unavoidable luck factor when a student takes an exam: we can (and should) minimize that by asking as many questions from as many different topics possible, but there are all kinds of trade-offs here (for instance, with this approach, a student who is good at long exams will get an advantage, compared to students with shorter attention span) so this is not really a trivial optimization problem!

Does “exam having questions only from some topics” make it suboptimal? Yes, absolutely! But does this make the exam “unfair”? I understand why this feels unfair, but it is not really an issue of fairness unless some students systematically benefit over others.

Q6 Almost no one could solve this question on the exam, meaning that students effectively began the exam with an X -point disadvantage!

This interpretation is understandable, but in fact the purpose of an ideal examination in a relationally-graded course should be to resolve the students as much as possible, meaning that the range of scores should be as high as possible. An exam where all students get 0% is a technically terrible exam, just like the exam where all students get 100%! In other words, an exam *should include* a sufficiently difficult question that can effectively differentiate students at the high score region.

It is important to note that the situation is different if letter grades are not relationally distributed (such as a catalog-graded course), but that is irrelevant for my courses.

Q7 The exam was too difficult!

I am okay with this! An instructor might choose one of the multiple strategies for a course:

- they might prefer to prepare really hard examinations (mean's are around 30's), with generous letter grades at the end of the semester (**CC's** around 30);
- they might prefer to prepare really easy examinations (mean's are around 70's), with harsh letter grades at the end of the semester (**CC's** around 70);
- they might change the difficulty of each exam based on the reception of the previous one to aim for a particular value for the class mean;
- they might intentionally start with a really difficult midterm and gradually make the exams easier, or vice versa.

It is natural to feel discouraged after a difficult exam, but difficulty alone doesn't indicate harshness or unfairness. In the end, what matters is not the absolute difficulty of any single exam, but the overall fairness and consistency of the grading policy over the full semester.

Q8 The class average was too low: you should re-evaluate the grades!

This concern is essentially the same as in **Q7**, so my answer there applies equally here. I would only like to add the following.

As young adults soon aiming to be scientists, you should make your case with well-thought, strong, and persuasive arguments: it is not a priori given that the class average should not be low in the first place, and it is by no means clear that a posteriori action should be taken if that is the case. I am open to discussion and take action if I am convinced by your argument, but please make the effort to prepare an argument before contacting me on this.