Grading scheme: Subatomic physics (NS-369B)

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The grade of this course is made of three contributions:

- the mid-term exam,
- the final exam,
- the weekly exercises

The grade related to the exams is extracted separately as a weighted average between the mid-term and the final exams with a weight 40 : 60 i.e. 40% of this part of the grade comes from the the mid-term and 60% from final exam.

The final grade of each student is a combination of the grade from the two exams (see the explanation above) and the hand-in homework exercises. The relevant weight is 80 : 20 i.e. 80% of the grade comes from the exams and 20% from the hand-in exercises. However, it is important to note that homework can only work as a bonus for the student: if the grade a student gets after considering the homework and the exams is less than the relevant grade calculated with just the exams, then the latter is considered as the final grade. This might sound a bit complicated but I try to explain it below with some formulas and examples.

The formula based on which the grade is calculated is:

$$\text{grade} = max\Big(\Big[0.8 \cdot \Big(0.4 \cdot (\text{midterm exam}) + 0.6 \cdot (\text{final exam})\Big) + 0.2 \cdot \frac{1}{N}\sum_{i=1}^{N}(\text{homework})_i\Big],$$

$$\Big[0.4 \cdot (\text{midterm exam}) + 0.6 \cdot (\text{final exam})\Big]\Big)$$

Please note that no matter if you handed in exercises one time or as many times as the number of homework sets, the average of the grade related to the exercises will be computed over the total number of homework sets (i.e. you should hand-in as many sheets as the number of sets to take advantage of the grading scheme). Furthermore, in order to have the possibility to use the bonus from homework you need to score at least 5.5 as a weighted average in the exams. In order to pass the course you need to get a grade larger than 5.5. This will be automatically translated into a 6, whereas anything below 5.5 will be downgraded to 5 (i.e. non-passing grade).

For both the mid-term and the final exams, no textbooks, lecture notes, reading material, the worked-out exercises from the tutorial sessions or any other material are allowed. You will need a pen or/and a pencil and a calculator. The rest will be provided during the exam.

Some examples on how the grade is calculated:

- **Example A:** A student hands in all or part of the exercise sheets and gets an average of 9.0 for this part. The same student scores 6.3 and 7.3 in the mid-term and final exams, respectively. The final grade is then the maximum between $0.8 \cdot (0.4 \cdot 6.3 + 0.6 \cdot 7.3) + 0.2 \cdot 9.0 = 7.32 \rightarrow 7.5$ (including homework) and $0.4 \cdot 6.3 + 0.6 \cdot 7.3 = 6.9 \rightarrow 7.0$. That means that in this case the final grade will be 7.5.
- **Example B:** A student hands in all or part of the exercise sheets and gets an average of 6.0 for this part. The same student scores 8.5 and 8.1 in the mid-term and final exams, respectively. The final grade is then the maximum between $0.8 \cdot (0.4 \cdot 8.5 + 0.6 \cdot 8.1) + 0.2 \cdot 6.0 = 7.8 \rightarrow 8.0$ (including homework) and $0.4 \cdot 8.5 + 0.6 \cdot 8.1 = 8.26 \rightarrow 8.5$. That means that in this case the final grade will be 8.5.

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- **Example C:** A student hands in all or part of the exercise sheets and gets an average of 8.0 for this part. The same student scores 4.5 and 6.0 in the mid-term and final exams, respectively. The weighted average of the two exams is $0.4 \cdot 4.5 + 0.6 \cdot 6.0 = 5.4 \rightarrow 5.0$, which is the final grade i.e. the student did not pass the course. In this case the student won't have the possibility to use the homework bonus which would have raised the grade to $0.8 \cdot (0.4 \cdot 4.5 + 0.6 \cdot 6.0) + 0.2 \cdot 8.0 = 5.92 \rightarrow 6.0$