

PHY 2054 Grade Calculation

Summer 2015

Overall Score

Your overall course grade will be calculated as follows:

$$\text{Total Score} = \text{Exam Score} + \text{Quiz Score} + \text{Homework Score} + \text{H-ITT Score}$$

Exam Score

The overall exam score is given by

$$\text{Exam Score} = \frac{75}{45} \times (E1 + E2 + EF)$$

where $E1$, $E2$, and EF are you exam 1, exam 2, and final exam scores respectively. Each exam will have 15 questions and each question is worth 1 point, so your individual exam scores will be out of 15. Since each exam is worth 25% (and therefore all 3 are worth 75%), they must be scaled accordingly, which is what the 75/45 multiplier does.

Quiz Score

There are 8 quizzes, each worth 5 points, for a total of 40 points. Out of that, a 10% drop will be applied and then the score must be scaled to 20%, hence

$$\text{Quiz Score} = \frac{20}{40} \times \left(\frac{\sum_{i=1}^8 q_i}{0.9} \right)$$

where $\sum_{i=1}^8 q_i$ means the sum of the eight quiz scores. The 0.9 factor in the denominator represents the 10% drop and means that if you get 90% of the quiz points available, you effectively get 100% on the quizzes. This formula allows for scores above the intended maximum, but if your overall quiz score comes out above 20, it will be rounded down to 20.

Homework Score

The homework score is similar to the quiz score except for the total number of points available and the overall max that will be applied to your course grade. Since the homeworks are not all designed yet, the total number of points is not defined yet either. However, the formula is still known,

$$\text{Homework Score} = \frac{5}{T} \times \left(\frac{\sum_{i=1}^{10} h_i}{0.9} \right)$$

where T is the total number of homework points available. The 0.9 factor in the denominator again represents a 10% drop and the homework score is similarly capped at 5 points.

H-ITT Score

The H-ITT score is bonus available to students who come to class and answer the H-ITT questions. The maximum bonus available is 5 points. The calculation for the H-ITT score is similar to the homework and quiz scores, and like the homework, not all H-ITT questions are decided upon as of this documents writing, but the formula is known

$$\text{H-ITT Score} = \frac{5}{B} \times \left(\frac{\sum_{i=1}^N b_i}{0.8} \right)$$

where B is the maximum available H-ITT points (each question gives 1 point for an incorrect answer, 2 points for a correct answer, and 0 points for no answer) and $\sum_{i=1}^N b_i$ is the total acquired H-ITT points for the N clicker questions asked in class. The 0.8 factor in the denominator represents the 20% drop, given for technical problems, absences, etc and the H-ITT score is similarly capped at 5 points.

Example of Computing Overall Course Score

Suppose you score 12/15 on exam 1 ($E1 = 12$), 11/15 on exam 2 ($E2 = 11$), and 13/15 on the final ($EF = 13$). Also suppose that you have acquired 28 of the possible 40 quiz points, 58 of the possible 80 homework points, and 37 of the 68 H-ITT points (remember that the total homework and H-ITT points will not necessarily be the values just given). You can then apply the formulae above to get

$$\text{Exam Score} = \frac{75}{45} \times (12 + 11 + 13) = 60.0000$$

$$\text{Quiz Score} = \frac{20}{40} \times \left(\frac{28}{0.9} \right) = 15.5556$$

$$\text{Homework Score} = \frac{5}{80} \times \left(\frac{58}{0.9} \right) = 4.02778$$

$$\text{H-ITT Score} = \frac{5}{68} \times \left(\frac{37}{0.8} \right) = 3.40074$$

and so your total score would be

$$\text{Total Score} = 60.0000 + 15.5556 + 4.02778 + 3.40074 = 82.98412$$

which puts you above 80 and below 85, giving you an A- letter grade.