

## How to estimate my grade in MATH 1120?

This handout is supposed to help you estimate your grade in MATH 1120, by providing a sample calculation. The rules how to compute the course grade are detailed in the syllabus. Keep in mind, you need to have at least 90% overall to get an “A”, at least 75% to get a “B”, at least 60% overall to get a “C”, and at least 50% overall to get a “D”. Just replace the numbers below with your numbers provided on Canvas, and do the math!

Suppose Claire had 2 unexcused absences, 72% on the tests (you may use what is displayed on Canvas if you have not missed a test) and a total of 110 points on Webwork and the written homework. For the homework and the webwork you can not rely on Canvas, because canvas will assume you have zero points on the assignments that have not yet been turned in, graded or posted. Suppose there were 150 points available on the currently graded assignments, then Claire’s performance is  $110/150 = 73.33\%$ . As stated on the syllabus, attendance accounts for up to 3% of the course grade, homework contributes 16%, the three tests contribute  $3 \times 17\% = 51\%$  and the final is worth 30%. In our example, Claire gets only 1% (instead of 3) for attendance.

**Best case scenario:** Claire scores 100% on the final. In this case, her overall score will be

$$1\% + 0.16 \cdot 73.33\% + 0.51 \cdot 72\% + 0.3 \cdot 100\% = 79.45\%.$$

This is better than 75% and worse than 90% so Claire gets a “B”.

**Worst case scenario:** Claire scores 0% on the final. In this case, her overall score will be

$$1\% + 0.16 \cdot 73.33\% + 0.51 \cdot 72\% + 0.3 \cdot 0\% = 49.4\%.$$

This is less than 50% so she likely gets an “F”, unless her instructor decides to round up all scores between 49% and 50% to 50%. (Not likely, could happen only if there is no one who scored between 48% and 49%.)

**Average scenario:** Claire scores 72.5% on the final, about the average of her homework and her test scores. Claire then has

$$1\% + 0.16 \cdot 73.33\% + 0.51 \cdot 72\% + 0.3 \cdot 72.5\% = 71.20\%.$$

This is clearly between 60% and 75%, Claire gets a “C”.

**At least how much should Claire get on the final to get a “B” ?**

Claire needs to solve the linear inequality

$$1\% + 0.16 \cdot 73.33\% + 0.51 \cdot 72\% + 0.3 \cdot x\% \geq 75\%$$

which gives  $x \geq 85.15\%$ .

**At least how much should Claire get on the final to get a “C” ?**

Claire needs to solve the linear inequality

$$1\% + 0.16 \cdot 73.33\% + 0.51 \cdot 72\% + 0.3 \cdot x\% \geq 60\%$$

which gives  $x \geq 35.16\%$ . So even with a failed final, she may get a “C”, if she gets a little more than one third of the answers right.