

My Grading Philosophy

Learning is the ultimate goal of taking a class, not getting a grade. If I had my way, I wouldn't assign grades. Rather I'd lecture, give some assignments and exams, and provide some feedback (without assigning points). However, in the real world, students are not motivated without grades, and it's difficult for an educational institution to be taken seriously without a system to assess mastery of classes taken. Since part of my job is to give grades, which indicate mastery of a class, I try my best to accurately do so. However, it must be understood that no grading system is perfect, and different instructors may place different amounts of importance on the understanding of different concepts and ideas. With that in mind, for a computer science course, here are my qualitative definitions for each letter grade:

A - Understands nearly all the material presented in class and can use that material to come up with solutions to new problems that the student has never seen before that can be solved using a combination of techniques shown in the class.

B - Understands most of the material presented in the class and can apply that material to solve problems similar to those solved for homework assignments. The student may have difficulty understanding and applying the most difficult material presented in the course. (For COP 3223 this material is pointers and linked lists.)

C - Understands a little bit more than half of the material presented in the course and can apply that material to straightforward problems that do not necessitate applying the combination of different concepts or the more difficult concepts in the course.

D - Understands half or less of the material in the course and can has difficulty solving problems that discussed in the first half of the course.

F - Can only solve very rudimentary problems based on the course syllabus.

The problem with these descriptions is that a course grade doesn't JUST reflect your mastery of the information, but it ALSO reflects a student's diligence in turning in assignments and showing up for quizzes and exams, etc. **You only get the grade you deserve in a class if you turn in work that reflects your mastery of the material in the class.** Thus, you can get an A in the course only if you can apply the material in the course to solve new problems **AND** if your submitted assignments, quizzes and exams that corroborate that claim. If you can't solve new problems based on the concepts taught in a computer science class, even if you are diligent in turning in assignments, quizzes and exams, it may be difficult to earn an A.

So this doesn't sound so fair. In other classes you don't have to "apply" concepts to solve new problems, right? While this may be true, grading criteria, in my opinion, must indicate the mastery of skills needed in a particular discipline. A computer scientist routinely faces new problems he/she has never seen. A student who has difficulty solving these types of problems in a classroom setting will likely have more difficulty in a work

environment. Granted, not ALL computer science jobs require a great deal of creativity in problem solving, but enough of them do that this is a reasonable skill to base grades upon in computer science classes.

So how can I, as a teacher, gauge whether or not my students can solve "new" problems? **By creating problems the students have never seen before and putting them on assignments and exams.** Ultimately, in doing this it becomes unfair to use a 90-100, 80-90, etc. grading scale. Typically, the grade distributions I would get if I applied this straight scale would be poor and inaccurate compared to grading scales used in other classes. Furthermore, the difficulty of my exams fluctuates from semester to semester, exam to exam. It would be unfair to students in a class where I wrote an uncharacteristically difficult exam if I used a straight grading scale of ANY sort. Since the quality of students in a large class fluctuates less than the difficulty of my exams, I use both the class average and standard deviation on exams as well as my perceived difficulty of the assignments and exams to help determine the FINAL grade cut-offs for a class.

Note that I don't really pick letter grades for individual exams. I can give the class a ballpark figure, but invariably when I do so, this leads to misunderstandings students have about their grade. Here's an example of how a misunderstanding could occur: If a student earns an 80 (which is barely an A), and a 60 (which is barely a B), but aces their homework assignments, they may think they'll get an A, thinking that the homework will pull them up. However, the class average on homework assignments is quite high, thus, the lines for an A and a B on the homework assignments are different than the exams. (It may be the case that a 90% is an A and an 80% a B.) Thus, numerically, the student can't gain enough exam percentage points, so to speak, from the homework to get to an A. Of course, if you have A's on all the tests based on my rough guidelines, AND get excellent grades on the homework, then you're locked in for an A.

To me, it's more important to have the flexibility in choosing my final cut-off grades to allow me to be fair, than to pick these from the beginning where I may be forced to be unfair to the students. The tradeoff of having this flexibility is that I can not exactly tell students what their letter grade in the class (or what their letter grade for an exam) is at all times. Occasionally, I can give a poor prediction for a grade, especially if a student does poorly on a subsequent exam, particularly, the final exam (especially if it's worth 25% or more can really change the students' final grades.) In the future, I will attempt to post letter grade cutoffs for the class at a few points in time during the semester. **Most importantly, if you are concerned about your grade, PLEASE COME AND SEE ME!!!** I will probably give you "hopeful" advice because I don't want to discourage my students. Always keep in mind that improving a poor grade is sometimes more difficult than it seems. In particular, if you have a 40% in the class for the first five weeks, compensating by earning a 70% for the rest of the class will probably be extremely difficult for you. Though it's mathematically possible, unless students work extremely hard, much harder than they were working before, this type of stark turn around is rare in a computer science class. The reason for this is most of the material builds upon itself. If you do poorly in an early section of a CS course, you can't simply ignore that and move

on. You have to go back and master that concept and THEN move on. So if you come to get grade advice from me, keep all of this in mind.

Finally, now that I've gone through all of that, a rough guideline of how I pick my grade lines is as follows:

A - one standard deviation above the class average

B - 2 or 3% points below the class average

C - one standard deviation below the class average

Keep in mind, this is only a rough guideline!!! When I actually make my decisions, I may end up being a bit more strict or lax than what these guidelines suggest.

Ultimately, the best way to approach one of my classes is to care about the material you are learning and not the grade. If you learn to apply the concepts well, my grading scheme will allow you to do well. If you spend lots of time caring about the grade, you will probably get all stressed and worked up and give yourself less time to care about and work for the class. Of course, if the TAs or I ever make an error grading, PLEASE bring it to our attention. We surely make mistakes often and I will always correct these when they are brought to my attention. (However, keep in mind that sometimes I may tell you, "That is how I graded that question uniformly on all exams, so I can't change your grade." Once I make a grading criteria, I try to stick by it. Even if it seems unfair to you, changing it after grades have been assigned is simply impractical. What's important is that I apply the same grading criteria (whether it be lax or harsh) equally to all students in the class.) If there are inconsistencies in grading, please bring these to my attention.

Finally, if you have any questions whatsoever about how I grade, please come and ask me!!! -

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