

## The Problem with + or - Grades Using New Quality-Point Weights

If we add + or - to any of our grades, these symbols will appear on the students' transcripts, and that was argued to be a desirable outcome. However the effect that any of these + or - grades have on any student's GPA is minimal (though potentially problematic) if we follow the proposed quality-point multipliers (B- as 2.7, B as 3.0, B+ as 3.3, etc.<sup>1</sup>) in the Report from the Academic Policies Committee. In fact the more SU credit hours a student acquires, the less the impact of any of these grades on the student's cumulative SU GPA. That is clearly shown in the following chart (and I'll be happy to explain the arithmetic to anyone who asks):

Earned SU CR. Hrs.	GPA Change Per 1 CR +/-	GPA Change Per 2 CR +/-	GPA Change Per 3 CR +/-	GPA Change Per 4 CR +/-
15	0.0200	0.0400	0.0600	0.0800
30	0.0100	0.0200	0.0300	0.0400
45	0.0067	0.0133	0.0200	0.0267
60	0.0050	0.0100	0.0150	0.0200
75	0.0040	0.0080	0.0120	0.0160
90	0.0033	0.0067	0.0100	0.0133
105	0.0029	0.0057	0.0086	0.0114
120	0.0025	0.0050	0.0075	0.0100

Moreover, **ANY** + grade completely cancels the effect of **ANY** - grade, so the only actual change in a student's cumulative GPA is produced by the "un-canceled" + or - grades. I strongly suspect – without any actual evidence whatsoever – that most students would have very few +'s or -'s that were not canceled by the other, and most likely at most 1 or 2. This assertion is completely in line with the predictions from the articles referenced by the Committee.

Observe that weighted + or - grades have the greatest effect on a student's cumulative GPA at the end of the student's first few semesters at SU, with their effect steadily diminishing with each passing semester. Now consider the following hypothetical case.

A student after one semester at SU who earned 8 credit hours of A and 7 credit hours of B would have, under our existing policies, an SU GPA of 3.533. Consider the potential effect if either of the two proposed systems were employed. Case 1: if four of these credits of A were A-, the SU GPA would be 3.453, and Case 2: if all 8 credits of A were A-, the SU GPA would be 3.373.

Now, suppose that our hypothetical student also earned 8 credit hours of A and 7 credit hours of B in the second semester (with no + or - grades). Under our existing policies the student would have a cumulative SU GPA of 3.533 after earning 30 credit hours. Consider the potential effect if either of the two proposed systems were employed. In Case 1, the student would have a

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<sup>1</sup> In the computations which follow, I used 3.7 as the quality point weight for A- as the Committee recommended. Using 3.667 as done in several of the studies cited by the Committee produced slightly lower GPA's.

GPA of 3.493 and in Case 2, a GPA of 3.453. If this student were required to maintain a 3.500 or better GPA in order to keep a scholarship, under our present system the student would easily keep the scholarship. Using either of the two proposed systems the student would lose the scholarship at the conclusion of either the first or second semester at SU.

Arguably it is during a student's first semester or two when the adjustment to college is most likely to have an adverse affect on a student's performance. Because neither of the Committee's proposed schemes provides a grade of A+, the affect on scholarship students can only be negative using either grading scheme proposed by the Committee. I submit that changing to a system that potentially punishes students who earn A grades is a mistake.

At the other extreme, if a C- is not included in the grading scheme (see the Committee's second proposal), then our C students will have their GPA's slightly increased if they earn any C+ grades (which cannot be cancelled by non-existing C- grades). Do we really want to "improve" our grading system by potentially punishing students who receive A's and rewarding students who receive C's?

**Summary:** There are considerable differences between, for example, the performances of students who earn B-, B, and B+ grades. Thus if we include (some) + or - grades in our grading system, these will appear on the students' transcripts, denoting these differences. The potential GPA problems noted above arise **only** if we assign new quality-point weights to the new + and - grades, particularly if we do not allow A+ or C- grades to be awarded. The articles cited by the Academic Policies Committee argue that the GPA effects of these weights are minimal, although they agree that students receiving A's are potentially punished. The various hypothetical studies conducted in the articles apparently assume that an average change is about one + or - grade that is not "balanced" by - or + grades. Because the effect on a student's GPA is predicted to be minimal, what is actually gained by adding this complexity to the proposal?

## Compromise Proposal

My proposed compromise: Allow faculty members to award + or - grades for each of the five letter grades (A, B, C, D, and F) but do **not** change the quality points for each letter grade. That is, A+, A, and A- are each worth 4 quality points, B+, B, and B- are each worth 3 quality points, etc.<sup>2</sup> As a consequence the **qualitative** differences between "plus" and "minus" grades would appear on the student's transcript, and that was argued to be an important change. A potentially problematic change in the GPA (particularly for students earning A's) would **not** occur because there would be **no change** in the SU GPA computation. Compared to the Committee's proposals, this proposal would be easy to implement.

If we adopted this proposal and if we so desired, we could subsequently conduct experiments using these new + or - grades, computing GPA's using a variety of different quality-point weighting schemes. This would provide actual data in case we wished to weight the quality points differently in the future. Such a change of weights would be based upon actual grading patterns at SU rather than upon either hypothetical/theoretical grading distributions or grading distributions from other institutions.

If we adopted this proposal, there does not appear to be a need to change most of our present policies that are based upon GPA values. Even though we now *de facto* accept C- grades as "C or better," departments and programs will surely want to reconsider that policy if C- grades could actually be awarded.

Dave Parker, 26 November 2013

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<sup>2</sup> This is an obvious application of the K.I.S.S. principle.