

MEMORANDUM

September 26, 2011

To: The Graduate Council

From: Charles Caramello
Dean, The Graduate School

Re: Proposal on Implementation of Plus/Minus Grading

Current Status

At the request of the Senate Executive Committee, Provost Ann Wylie forwarded an "Implementation Plan for Plus/Minus Grading" to the President of the Senate on September 1, 2011. This plan was copied to the Council of Deans, who discussed it at the CoD meeting of September 19, 2011. Focused largely on undergraduate education, the Provost's Plan also makes four explicit references to graduate education. The implementation plan is attached, with references to graduation highlighted in yellow (see Appendix A: Implementation Plan for Plus/Minus Grading, Office of the Provost).

The Plan explains that previous policies on plus/minus grading approved by the Senate have included undergraduate and graduate courses. It encourages the Graduate Council to analyze the impact of plus/minus grading on graduate students, and, via the Dean of the Graduate School, to forward recommendations to the Senate. If plus/minus grading for the campus is to be implemented in Fall 2012, the Senate must consider the Provost's Plan at its meeting of November 9, and **the Senate Executive Committee should receive Graduate Council recommendations by October 14.**

Background

In AY 2005-06, the Faculty Affairs Committee of the Graduate Council was charged with "considering the plus/minus grading system proposed for the campus as it affects graduate studies and with making appropriate recommendations to the Graduate Council." The Committee also was asked "to review the relevant passages in the *Handbook for Graduate Students and Graduate Advisors*, and was asked to note changes that would follow from adoption of its recommendations." Following research and deliberations, the Committee directed a memorandum dated May 1, 2006, to the Council.

Immediately prior to the presentation of this memorandum, the Provost postponed campus implementation of the plus/minus grading system from its original start date of Fall 2006. The Committee therefore requested that the Council,

at its meeting of May 3, 2012, consider the Committee's recommendations on a provisional basis and gather additional data on the issue (see Appendix B: Memorandum of Faculty Affairs Committee 5.1.06).

Graduate education and standards of excellence have evolved in the five years between 2006 and the current campus Implementation Plan for Plus/Minus Grading. The Office of the Dean has gathered, analyzed, and presented extensive recent data on the issue, including data on grading policies at peer institutions and projected effects of plus/minus grading on graduate students. This data is presented in the attached document, "Plus/Minus Grading and Graduate Education."

The principal issues for implementation of plus/minus grading at the graduate level include: minimum grade accepted for graduate work; minimum grade accepted for transfer of credit; overall GPA, time to degree, or degree completion; cumulative grade point average required to maintain good academic standing; academic probation and dismissal; and on the transition from one grading system to another.

Recommendations

On the basis of the data collected, and with the Provost's Recommended Plan in mind, we propose that the Graduate Council consider the following recommendations for endorsement:

1. The minimum grade stipulated by the Graduate School for graduate degree credit for individual courses, currently established as C, should remain as C (or 2.0). The grade of C- (or 1.7) will not count for graduate degree credit.
2. The minimum grade for individual course requirements currently specified in *Graduate School Policies* as B should continue to be specified as B (or 3.0). The grade of B- (or 2.7) will not suffice as minimum grade in these instances, which include, but are not limited to, courses being used for transfer credit and courses at the 600 level or above being double-counted for the Individual Student Bachelor's/Master's Program.
3. Any minimum requirements for overall GPA established in *Graduate School Policies* as 3.0 should remain as 3.0.
4. The minimum requirement stipulated by the Graduate School for *Good Standing* will not change: "In order to maintain good academic standing, every graduate student must maintain a cumulative grade point average (GPA) of 3.0 for all courses taken at the University."
5. Individual programs, using approved processes, can continue to establish requirements that exceed or augment those set by the Graduate School.

6. Policies for *Academic Probation and Dismissal* should be revised as follows: a student whose cumulative grade point average falls below 3.0 will not be placed on probation until s/he completes 12 credits or two semesters, whichever comes first.

7. Transition policies proposed in the Provost's Plan should apply to graduate students as well as to undergraduates:

"For currently enrolled students, cumulative GPA calculations will include grades granted under both the prior and present grading policy as of the effective date of implementation."

"The new grading scale will be implemented on a "day forward" basis, being effective on the start of a fall semester (to be specified)."

"The new scale will not be valid for grade changes made to a student's record for courses taken before the grading scale became effective."

Next Steps

If endorsed by the Graduate Council, the Dean of the Graduate School will forward the recommendations outlined above to the Senate Executive Committee.

APPENDIX A

Implementation Plan for Plus/Minus Grading Office of the Provost

Summary and Recommendations

The Senate Executive Committee requested that the Provost provide an implementation plan for plus/minus grading (Report of the Senate Academic Procedures and Standards (APAS) Committee). The plan analyzes effects on students and presents an implementation process.

Impact on Undergraduate Students

Plus/minus grading will result in a very small reduction in cumulative GPA, three one-hundredths of a GPA point (0.03), based on analysis of all freshmen admits and Fall transfer admits in the period 2006-2010 over their first four years of study. There are no substantive differences by race/ethnicity in GPA effects. GPA effects are almost constant across GPA levels. The principal source of a lower GPA arises because A- grades are awarded 3.7 grade points rather than 4.0. The negative effect on cumulative GPA for transfer students is also 0.03.

There is a small increase in the number of students with cumulative GPA below 2.0, approximately 0.5% of first-year students (approximately 20 students in each freshmen cohort). The number of students affected is lower for students who have progressed farther toward their degrees. Race/ethnicity differences in the increase in numbers of students with GPA below 2.0 are relatively small.

Virtually all leading universities now use plus/minus grading that includes C- grades and A+ grades. The APAS proposal awarding 4.0 grade points for an A+ is aligned with other leading public institutions. Awarding 4.3 grade points to A+ grades will reduce (but not eliminate) the small negative effect on cumulative GPAs.

A principal benefit of plus/minus grading is to provide a more accurate representation of student achievement. Associated student incentive effects are not captured in GPA comparisons in the report.

Recommendations for Implementation

1. The University should award 4.0 grade points to an A+ grade in accordance with the APAS report. This will require Senate action to amend the April 26, 2006, policy which included 4.3 grade points for an A+.

2. For currently enrolled students, cumulative GPA calculations will include grades granted under both the prior and present grading policy as of the effective date of implementation.
3. University-wide requirements currently in place for a specific letter grade will be converted to accept a minus grade. Following implementation, academic programs may revise the letter grade requirements for specific courses, entry requirements to a program, or courses for graduation, by submitting requests through appropriate processes.
4. Senate approval of a new policy by the end of the Fall 2011 term should provide sufficient time to complete other steps for plus/minus grading to begin in Fall 2012. Delays in Senate action or academic program review and modification of course/degree requirements under the new system could delay implementation for another academic year.
5. Implementation of plus/minus grading should include all undergraduate courses. It should also include graduate courses upon the recommendation of the Graduate Council.

Plus/Minus Grading Effects for Undergraduates

I. Senate Proposals for Plus/Minus Grades in Grade Point Average (GPA) Calculations.

The University Senate has twice approved plus/minus grading and its use in GPA calculations. An extensive study of plus/minus grading was conducted in years 1999-2000 by a University task force, including campus-wide discussion and surveys of undergraduate and graduate students and faculty. The proposal was passed by the Senate on April 6, 2000, and approved by President Mote on August 28, 2000. Implementation was deferred. The Senate again approved plus/minus grading on December 25, 2005, with presidential approval on April 26, 2006. Implementation was again deferred.

The Senate Academic Procedures and Standards Committee (APAS) recommendation for plus/minus grading differs from the prior Senate approved policies only by assigning 4.0 grade points for an A+ rather than 4.3 grade points. The APAS proposal is as follows:

Grade	Grade points
A+	4.0
A	4.0
A-	3.7
B+	3.3
B	3.0
B-	2.7

C+	2.3
C	2.0
C-	1.7
D+	1.3
D	1.0
D-	0.7
F	0

In the previous Senate-approved policies and in the APAS proposal, the present marking system defining the standards for letter grades is retained: A+, A, A- denotes excellent mastery of the subject and outstanding scholarship; B+, B, B- denotes good mastery of the subject and good scholarship; C+, C, C- denotes acceptable mastery of the subject; D+, D, D- denotes borderline understanding of the subject (It denotes marginal performance, and it does not represent satisfactory progress toward a degree.); and F denotes failure to understand the subject and unsatisfactory performance. The marking system should remain unchanged.

II. Grading Policies at Peer Institutions. Virtually all leading (Top 25) major public universities, including our peer institutions, use plus/minus systems, typically adjusting grades 0.3 grade points up or down for plus/minus grades. (See Table 1.) Approximately one-half include the grade of A+, which is awarded 4.0 grade points. While not included in GPA calculations, the award of an A+ provides an additional indicator of excellent performance. Approximately 80% of leading public institutions include a C- grade, with a large fraction awarding 1.7 grade points. Plus/minus grading is also used in the majority of leading private universities, with many including A+ and C- grades. Adoption of the 2011 Senate APAS proposal would align the University's grading system with other major public research institutions.

III. Static and Dynamic Effects on Students. The effect of different policies for translating letter grades into numerical grades and cumulative GPAs can be readily compared by recalculating cumulative GPAs for any proposed policy. Three alternative policies are compared below: the present policy, Senate-approved policy, and the 2011 Senate APAS proposal. The analysis describes changes in GPAs, as well as changes in the number of students who would have a cumulative GPA below a 2.0 GPA.

The overall effect of any grading policy depends on a number of dynamic factors, most notably student reactions to the challenges and opportunities under alternative grading policies. Introduction of plus/minus grading provides additional incentives, since success (as reflected in course grades) is more precisely defined and measured. Plus/minus grading is likely to encourage students at all grade levels to strive for a higher grade. For example, a minus grade could be an insufficient grade to meet a course, department, college, or other university requirement. Simple recalculations of GPAs for a given set of grades under alternative policies do not capture these incentive effects.

IV. GPAs for Students Entering and Completing with a Single Grading Policy.

The simplest illustration of GPA effects compares cumulative GPAs for students throughout their period of study under two alternative policies -- the University's existing policy without plus/minus grade points with the proposed policy of plus/minus grading with A and A+ grades given four grade points. Grades awarded for the period Fall 2006-Fall 2010 are used in the analysis. (A comparison of the 2000/2005 Senate policy with 4.3 awarded for A+ appears below.)

- A. **Grade Distributions at the University of Maryland.** Differences in outcomes associated with a plus/minus policy depend on the distribution of plus/minus grades at the University. If many more students receive plus rather than minus grades, calculated cumulative GPA will be increased; alternatively, a preponderance of minus grades will result in a lower cumulative GPA. Individual students will vary in the number of plus or minus grades received.

For the period Fall 2006-Fall 2010 there were more plus grades awarded to undergraduate students than minus grades at letter grades B, C, and D. Hence plus/minus grade points at these grade levels would contribute to a higher cumulative GPA. (See Table 2.) Conversely, at the A level, the proposed policy awards 3.7 points for an A-. The A- grade accounts for 14% of all undergraduate grades in this time period. Regardless whether an A+ is given 4.0 or 4.3 grade points, fewer total grade points would be awarded for grades at the A level, contributing to a lower cumulative GPA. The aggregate effect of plus/minus grading reflects the net effect of these grade patterns.

- B. **GPAs for Freshmen Cohorts, Fall 2006-Fall 2010, Over Four Years of Study.** The comparison below calculates cumulative GPA effects for incoming freshmen in five entry cohorts (Fall 2006-Fall 2010) under these two policies. Analysis of cumulative GPA effects is shown by an analysis of cumulative GPAs for incoming freshmen (fall and spring admits) in five cohorts (Fall 2006-Fall 2010) as students conclude subsequent years at the University. GPA effects are shown for students at the end of each of their first four years at the University.

The average change in GPA across all students in these five cohorts at the end of their first year of study is a negative three one-hundredths of a point in GPA (-0.03). Average effects remain at this same level for the cohorts of students who have finished two years, three years, and four years. (See Table 3a.) More students in any given year will have reductions in their GPA than the number whose GPA is increased.

GPA effects of plus/minus grading are virtually identical for students across race/ethnicity categories, with an average GPA decline of -0.03 across cohorts and race/ethnicity categories. (Table 3b.)

Plus/minus grading effects on cumulative GPA for students at all GPA levels exhibit only slight differences by GPA level. Students at higher GPA levels, with GPA above 3.3, have reductions of -0.04 or -0.05. (See Table 4.) This difference likely is traceable to the larger number of A- grades received by students at higher GPA levels.

- C. **Number of Students with Cumulative GPA Below 2.0.** The University requires that students must have a 2.0 overall GPA to avoid being placed on probation or being dismissed and to have an overall 2.0 GPA to graduate. Under the plus/minus grading policy, the number of students whose cumulative GPA fell below 2.0 would be slightly increased. The largest increase would occur at the conclusion of year one at the University. For the five freshmen cohorts Fall 2006-Fall 2010, an average of 20 additional students per cohort are estimated to have a cumulative GPA below 2.0, 0.5% of all students finishing their first year, under the plus/minus policy. (See Table 4.)

The additional number of students under plus/minus grading with a cumulative GPA below 2.0 would be lower for students completing their second, third, and fourth years at the University, only 0.3% (ten students per cohort) for students finishing their fourth year. These calculated differences do not take into account incentive effects or other dynamic effects noted above that could result in fewer students falling below a 2.0 GPA.

There are small differences among students across race/ethnicity categories in the proportion of students whose GPA falls below 2.0 under plus/minus grading. For the period 2006-2009, the proportion of additional students falling below a cumulative GPA of 2.0 for the largest student groups is as follows: Asian, U.S., 0.5%; Black/African American, U.S., 1.0%; Hispanic, U.S., 0.5%; and White, U.S., 0.3%. A 1.0% proportion increase of Black/African American students with a GPA below 2.0 under plus/minus grading is an average of approximately four additional students each year. Sample sizes are insufficient to support meaningful analysis of changes by year of study and cohort year within each student group. These comparisons do not include the most recent entry cohort (Fall 2010) when a new system for coding race/ethnicity was introduced at the University.

- D. **Transfer Students.** Plus/minus grading has a similar estimated effect on transfer students. Cumulative GPA effects were examined for fall transfer enrollees for the period Fall 2006-Fall 2010. The average change in GPA across all students in these cohorts at the end of their first year of study is -0.03 and remains at this same level for the cohorts of students who have finished two years, three years, and four years. (See Table 6.)

Plus/minus grading results in approximately 20 additional transfer students having a GPA below 2.0 after their first year, 1.1% of all transfer students.

The additional number of transfer students under plus/minus grading with a cumulative GPA below 2.0 would be slightly lower for transfer students who have advanced farther toward their degrees.

V. Comparison of Senate-Approved Policy and APAS 2011 Proposal. Senate-approved policy awarded 4.3 grade points to A+ grades, in comparison to the APAS proposal. Awarding 4.3 grade points to A+ grades increases cumulative GPA only very slightly, by one or two one-hundredths of a point (0.01 or 0.02), with the effect highest for students completing their fourth year. The resultant effect of plus/minus grading on cumulative GPA under the Senate approved policy falls to 0.01 or 0.02 depending on years of study. (See Table 7.)

VI. Effect on Currently Enrolled Students in the Transition. There are two important dimensions in assessing the effect of introducing plus/minus grading policy on currently enrolled students: (1) how cumulative GPA will be calculated, and (2) estimating the magnitude of the change in cumulative GPA.

A student's cumulative GPA will include grade points awarded under the prior and the new policy. The grades and grade points already received by current students under the previous official grade policy will remain unchanged. Current students will receive grade points under the new policy when it becomes effective. The University transcript will include an explanation of this system. A survey of registrars at other institutions showed that this methodology has been used by numerous universities that have introduced plus/minus grades over an extended period of time, and no alternative approach was identified. The most recent major research institutions that changed grading policy using this methodology are the University of Georgia (2006), Purdue University (2008), and the University of Texas (2009).

The effect of the policy change on cumulative GPAs for current students will depend on how long a student has been at the University. For recently admitted students, cumulative GPA over time will largely reflect grades received under the new policy (a policy they may not have contemplated when they enrolled). For more advanced students, fewer grades will be awarded under the new policy, and effects on cumulative GPA will be smaller. For the average of all undergraduate students currently enrolled, the number of credits receiving plus/minus grades would be approximately one half of the total credits earned at graduation, which implies that the cumulative GPA effect for currently enrolled students would be approximately half the effect presented above for students who are under the new system for four years.

Implementation Process and Timetables

A. Review of Existing Requirements Not Met by a Minus Grade. The implementation plan presented here accepts minus grades in all university-wide

policies that now define the requirement as a D, C, B, or A grade. A grade of D- is accepted as the lowest passing grade. Many academic departments and programs require minimum course grades that do not specify a plus or minus. This occurs most often at the course level where minimum course grades are part of a course prerequisite requirement, an entry requirement to a major or program, or a degree requirement. If an academic unit does not wish to accept plus or minus grades in satisfaction of any of these requirements, the unit must submit a formal request for an exception to this university-wide implementation plan.

B. Graduate Courses and Graduate Education. Previous policies approved by the Senate have included graduate courses and programs. The Graduate Council should analyze the impact of the recommended proposal for plus/minus grading on graduate students, courses, and programs, and the Dean of the Graduate School should report findings and recommendations to the Senate. Introducing plus/minus grading by course level at different points in time will significantly increase the administrative costs of making the changes.

C. Timetable.

Provost-Senate Task Force: Complete its review and make recommendations to the Senate. (September 1-September 30)

University Senate action on policy. (September 15-December 15)

Academic programs: Review and submit proposals for letter grade requirements for specific courses, entry requirements, or courses for graduation for Senate PCC review. (January 1-February 28)

PCC review or other review as necessary. (February 15-March 31)

Communicate policy changes to faculty, students, and staff, and modify the forthcoming 2012-2013 Undergraduate Catalog as needed. (March 31 – May 31)

Develop administrative procedures to record grades and compile transcripts, Office of Registrar and OIT. (January 1-May 1)

Schedule Contingencies: It will likely take the Spring 2012 term to review and complete adjustments at the course and program level; communicate to the campus; and develop administrative procedures to produce grades and transcripts. If Senate action is not completed during the Fall term, the risk increases that implementation would have to be deferred until Fall 2013.

Provost's Recommendations for Implementation of Plus/Minus Grading

1. The new scale will include the following grades and grade points:

Grade	Grade points
A+	4.0
A	4.0
A-	3.7
B+	3.3
B	3.0
B-	2.7
C+	2.3
C	2.0
C-	1.7
D+	1.3
D	1.0
D-	0.7
F	0

2. All references in future official University publications requiring minimum grades of (1) D be changed to D minus, (2) C be changed to C minus, (3) B be changed to B minus, and (4) A be changed to A minus. With the adoption of the new grading scale, D minus will be considered the lowest passing grade.
3. Exceptions to this change for individual course requirements, degree requirements, and academic policies must be made by the appropriate academic units through the normal processes. For example, a grade of C might be required, rather than a "C minus" grade in the new plus/minus system, to meet a course prerequisite requirement, one or more course requirements for entry to a major, or to meet degree requirements. This principle applies to required course grades at all levels (C minus, B minus, or A minus).
4. The adoption of this new grading scale will not change requirements that are based on any calculated GPA; examples of GPA requirements include scholastic probation, academic dismissal, graduation, continuation in certain programs, and access to specific courses (based on performance in more than one previous course).
5. The new grading scale will be implemented on a "day forward" basis, being effective on the start of a fall semester (to be specified). This scheduled start date will be adhered to unless the Office of the Registrar states that it cannot ensure that all of the necessary processes are in place to ensure an orderly transition; in that case, it will be begin at the start of the first academic year

after such assurance can be made. The new grading system will not be effective until it is described in the Undergraduate Catalog.

6. The new scale will not be valid for grade changes made to a student's record for courses taken before the grading scale became effective.
7. Implementation of plus/minus grading will include all undergraduate courses. It will also include graduate courses upon the recommendation of the Graduate Council.
8. The present marking system defining the standards for letter grades will be retained under the new policy: (A+, A, A- denotes excellent mastery of the subject and outstanding scholarship; B+, B, B- denotes good mastery of the subject and good scholarship; C+, C, C- denotes acceptable mastery of the subject; D+, D, D- denotes borderline understanding of the subject (It denotes marginal performance, and it does not represent satisfactory progress toward a degree.); and F denotes failure to understand the subject and unsatisfactory performance.
9. In accordance with this proposal, the Office of the Registrar will revise the Undergraduate Catalog, the course inventory, the official transcript, and University-level degree audit rules. The Graduate Catalog will be revised as appropriate.

Internal Graduate Council Document - Draft - Confidential

APPENDIX B

May 1, 2006

MEMORANDUM

To: The Graduate Council

From: Faculty Affairs Committee

Subject: Plus/Minus Grading System

The Faculty Affairs Committee was charged with considering the plus/minus grading system proposed for the campus as it affects graduate studies and with making appropriate recommendations to the Graduate Council. The Committee was asked to review the relevant passages in the *Handbook for Graduate Students and Graduate Advisors*, and was asked to note changes that would follow from adoption of its recommendations.

In consultation with the Associate Provost for Academic Planning and Programs, the Committee focused its deliberations on three general questions: minimum grade requirements for individual courses; minimum requirement for overall GPA; and appropriate time period for Advanced Special Students to remain under the current grading system.

The Committee recommends the following:

- 1) The minimum grade for graduate degree credit (though not necessarily program credit) for individual courses, currently established as "C," should be established as "C-."
- 2) The minimum grade for those individual course requirements currently specified in the *Handbook* as "B" should be specified as "B-." These include, but are not limited to, courses being used for transfer credit and courses at the 600 level or above being double-counted for the Individual Student Bachelor's/Master's Program.
- 3) Minimum requirements for overall GPA established in the *Handbook* as "3.0" should remain as "3.0."
- 4) Advanced Special Students enrolled prior to the point of implementation of the plus/minus grading system would remain within the current grading system for a maximum period of five years from the point of implementation of the new system.

The Committee assumes as a given that individual programs, following appropriate protocols, will continue to be able to establish requirements that exceed or augment those set by the Graduate School.

The Committee understands that campus implementation of the plus/minus grading system has been postponed from its original start date of Fall 2006. Under those circumstances, the Committee suggests that the Graduate Council (a) might act provisionally on the recommendations made above and (b) request the Graduate Dean to consult with OIRP about data gathering that might prove relevant to those recommendations.

Internal Graduate Council Document-Do Not Circulate