

SPECIAL REPORT
of the
UNDERGRADUATE EDUCATION COUNCIL
concerning
GUIDELINES
FOR ASSIGNING GRADES
IN UNDERGRADUATE COURSES

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COUNCIL MEMBERSHIP

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The Undergraduate Education Council recommends adoption of these Guidelines for Assigning Grades in Undergraduate Courses.

Background

The Undergraduate Education Council examined the issue of how instructors assign letter grades because two council members brought to the attention of the council instances of assigning letter grades to students' performances solely in relation to the performance of other students (and not relative to pre-determined standards). The council members expressed concerns about student success and fairness, which will be discussed in the Rationale section of this report.

Historically, instructors across institutions have used two main ways to assign grades to student work:

1. **Criteria-based** (or criteria-referenced) grading. Student work is evaluated relative to pre-determined standards, and a student's grade is determined by how well the student's work meets the standards. For example, students who score above 90% receive an "A" letter grade, those who score above 80% receive a "B," and so on in 10% steps, with students scoring below 60% receiving an "F."

These pre-determined thresholds may be adjusted, e.g. when a particularly challenging assignment has led to a lower mean grade than the instructor expected, by adding points to the students' scores to raise the overall mean without changing the overall grade distribution. This may apply to individual assignments or to the course total, where letter grade cut-offs could be lowered, to the same effect. This is a perfectly acceptable practice, where the instructor reflects on the quality of their assessment and adjusts every student's grade upward in the same way. Students often refer to this as "curving" or "grading on a curve."

One of the key features of criteria-based grading is that students can accurately assess their standing in class throughout the semester; they can calculate their expected letter grade based on their current work.

2. **Norm-based** (or norm-referenced) grading. Student work is evaluated relative to the work of other students, and grades are determined in relation to the performance of all other students in the class. This often takes one of two forms. In one, a certain pre-determined percentage of students receive a particular grade, e.g. the top 20% will receive an "A," the next 30% a "B," the next 30% a "C," the following 10% a "D" and the bottom 10% receive an "F." In the other, the mean numerical grade is calculated and letter grades are based on standard deviations from that mean (Aviles 2001).

Independent of the specific method, good grades are a limited resource for which students compete. Not every student can receive an "A," even if the work of every student happens to be outstanding. Nor can every student receive a "C" or lower letter grade, even if their work was less than or barely satisfactory.

The term "**grading on a curve**" can cause confusion because it has been used historically to refer to norm-based grading but nowadays is often used to refer to the practice of adding points to each student's grade to elevate the mean score of an assignment (as described above under Point 1, second paragraph). To avoid confusion, we do not use the terms "curving" and "grading on a curve" for either meaning in the remainder of this document.

Criteria-based grading appears to be the most common practice in undergraduate courses on our campus. In addition, Moodle on our campus has a default “points-to-letter grade” conversion table in the gradebook that is used when grades are imported from Moodle into Spire. This editable table does not preclude norm-based grading, but may be perceived by instructors as the University’s default grading system. However, the University does not have guidelines that specify criteria-based grading as best practice and instances of norm-based grading were observed by members of the council this past year.

Rationale

The council discussed the merits of both grading methods drawing on the educational literature and concluded that students should be given the opportunity to earn a grade based on the quality of their work alone.

This conclusion rests on **two ideals** with strong ethical and educational foundations (Sadler 2005):

1. Students deserve to be graded on the strength of their work alone, independent of the performance of other students on the same task.
2. Students deserve to know the criteria by which their work will be judged. Such predetermined criteria help students better plan and develop their work and makes the rationale behind the instructor’s grading decisions more transparent.

Criteria-based grading meets these two ideals; norm-based grading with its explicit reference to the performance of other students cannot, by definition, provide students with pre-determined criteria.

Educators have come to realize the benefits of collaboration and team work in higher education. In courses with **criteria-based grading**, students are free to form study groups and work collaboratively, where permitted, because students know they are not potentially lowering their own grade by helping others (please see the Appendix for a team-based learning example).

Norm-based grading, on the other hand, encourages competition and discourages collaboration because a student’s grade is not independent of others’ grades. Student have a greater sense of competition in courses with norm-based grading (Hughes et al. 2014) and this sense can contribute to the attrition of populations underrepresented in STEM fields (Shapiro and Sax 2011). Competitive classroom environments can increase a student's sense of feeling like an imposter, which can lead to lower performance and higher dropout rates. It is well known that the sense of feeling like an imposter is more strongly felt among first-generation college students (Canning et al. 2020).

Norm-based grading can disadvantage particular groups of students. An analysis of student grades at UCLA showed that students belonging to underrepresented minorities (URM) were disproportionately negatively affected by norm-based grading (Hurtado and Sork 2015). A disparity between grades of URM and non-URM students was present in both clusters of courses but the disparity was greater in courses associated with norm-based grading. URM students in courses associated with norm-based grading were less likely to receive an “A” or “B” range grade than non-URM students and a higher percentage of URM than non-URM received a “C” or lower grade. The grades of Pell-grant recipients followed a similar disparity pattern (Hurtado and Sork 2015).

In summary, the council perceived **norm-based grading** as inherently unfair, non-inclusive, and detrimental to student learning because:

- a) Students do not know their current standing in the course, because their standing depends on the performance of other students. In norm-based grading, a 70% current numerical total could correspond to an excellent, a middling, or a failing grade depending on the class. Thus, even if students know their current grade average, they cannot use this to make decisions about changing their studying habits or whether to withdraw from the course.
- b) Students do not have the opportunity to earn a particular grade entirely through their own effort, because the instructor has determined that only a fraction of the students will earn each grade. A quarter of a class may submit outstanding work, but if only the top 10% will receive an “A,” then the other 15% will receive a lower grade. Similarly, in another semester, 5% of the students in the same class may submit outstanding work, and some students with good but not excellent work will receive an “A.”
- c) Norm-based grading gives an advantage to students familiar with competitive educational environments or growing up in favorable cultural circumstances. Some groups of students, such as URM, Pell grant recipients, or first-generation students may earn relatively lower grades in courses norm-based grading, as discussed above.

The Council discussed two arguments that have been proposed in support of **norm-based grading** and identified serious weaknesses in each of them:

1. Some have claimed that this type of grading may be useful when students in a class must be ranked (Aviles 2001), for example for awarding a limited number of scholarships, but scholarship ranking seldom depends on students’ performance in a single class. Even if ranking in a single class is necessary, it does not require norm-based grading because students can be ranked by the total percentage points earned in the course.
2. Others believe norm-based grading is helpful when multiple sections of large lecture courses are taught by different instructors to ensure that the grade distribution will be the same in each section, independent of the level of difficulty in each section. However, even if sections are large, the assumption that student grades conform to a normal distribution may not be met. Furthermore, there are better strategies to deal with the challenges of multi-section courses that address the underlying issues, such as close collaboration among instructors on course content, policies, and grading rubrics.
3. Lastly, instructors and departments may advocate for a norm-based approach as the easiest way to avoid grade inflation. However, grade inflation can be addressed through careful course and assessment design and does not require norm-based grading. The evidence that some groups of students are particularly disadvantaged by norm-based grading indicates that while norm-based grading may be the easiest for departments and instructors, it is not the best approach for students.

The Council has considered these arguments and, for the reasons outlined above, does not feel that these arguments justify the use of norm-based grading.

The University's Academic regulations (2020/2021) specify in the section on "Course Management Guidelines for Instructors" that instructors should clearly communicate their grading criteria and how each course requirement contributes to the final letter grade. This language leaves open the option of norm-based grading: an instructor may score individual assessment items based on predetermined criteria but still assign letter grades based on the relative performance.

Furthermore, the regulations state "Since grading policies often tend to be a focus of confusion or misunderstanding, take special care to articulate your grading criteria and invite students to discuss related questions with you early in the course." The University recognizes that grading practices can create discontent and tension between students and instructors. It is time to adopt explicit grading guidelines to support instructors and students as they strive for clarity about grading expectations.

The guidelines described here are based on pedagogical reasoning. They do not constitute binding regulations to which all faculty must adhere. **We encourage all faculty members to carefully consider the grading system of their course and to develop clear expectations to share with their students.** This document strives to make this work easier for instructors by outlining the reasoning for criteria-based and against norm-based grading. Please note, instructors always have the discretion to deal with unexpected student situations as they see fit.

Please see the appendix below for examples of grading that are in line with the recommendation.

Recommendation

The Undergraduate Education Council recommends adoption of the following guidelines:

Instructors should assign individual item and final letter grades using criteria-based grading, with a set of pre-determined criteria against which student work is judged. Instructors should not use norm-based grading, in which good grades are a limited resource for which students compete.

References

Aviles CB. 2001. Grading with norm-referenced or criterion-referenced measurements: to curve or not to curve, that is the question. *Social Work Education*. 20(5):603-608. Available from: DOI: 10.1080/02615470120072869.

Canning EA, LaCrosse J, Kroeper KM, Murphy MC. 2020. Feeling like an imposter: the effect of perceived classroom competition on the daily psychological experiences of first-generation college students. *Social Psychological and Personality Science*. 11(5):647-657. Accessed from: DOI: 10.1177/1948550619882032.

Hughes BE, Hurtado S, Eagan MK. 2014. Driving up or dialing down competition in introductory STEM courses: individual and classroom level factors. *Association for the Study of Higher*

Education. [cited 2021 Mar 24]. Available from:
<https://www.heri.ucla.edu/nih/downloads/ASHE2014-Competition-in-Introductory-STEM-Courses.pdf>

Hurtado S, Sork VL. 2015. Enhancing student success and building inclusive classrooms at UCLA: report to the Executive Vice Chancellor and Provost. UCLA Center for Learning Innovation & Learning in the Sciences. 29-34. [cited 2021 Mar 24]. Available from: https://ceils.ucla.edu/wp-content/uploads/sites/2/2016/11/Enhancing-Student-Success-Building-Inclusive-Classrooms-at-UCLA-Report_December-2015-Hurdado-Sork-Report.pdf?x30619

Sadler DR. 2005. Interpretations of criteria-based assessment and grading in higher education. *Assessment & Evaluation in Higher Education*. 30 (2):175–194. Available from: DOI: 10.1080/0260293042000264262

Shapiro CA, Sax LA. 2011. Major selection and persistence for women in STEM. *New Directions For Institutional Research*. 2011(152):5-18. Available from: <http://dx.doi.org.silk.library.umass.edu/10.1002/ir.404>

Appendix: Practices in Line with Criteria-Based Grading

1. **A typical example of criteria-based grading:** All assignments in a course are given a point score and all scores together are shown as a course total percentage in the gradebook of the learning management system (LMS). In the syllabus, the instructor has defined which percentage corresponds to which letter grade. Students can check their course total against the point-to-letter grade table at any point during the semester to determine their current letter grade.
2. **Criteria-based grading can easily be applied to courses with team-based projects.**
Example: A course has a team project, where students evaluate each other's contributions to the team's work. The instructor has a clear set of criteria against which students judge their peers' contributions. These evaluations may change a student's project grade. For example, 80% of a student's project grade is the grade the project receives, which is the same for all students. The remaining 20% of a student's project grade is based on the total score of their team members' peer evaluation. Although at first glance, students can affect each other's grades, this is a clear example of criteria-based grading, where both the instructor and the peers evaluate a student's work against a set of pre-determined criteria.
3. **Instructors always have the discretion to deal with unexpected circumstances as they see fit.** Example: An instructor uses criterion-based grading as described under 1. At the end of the semester, a student presents extenuating circumstances and the faculty member adjusts this student's final letter grade to reflect the challenges faced by the student (e.g., removal of late penalties).
4. **Instructors may always adjust students' scores if there was a challenging grade item, as long as they adjust the score of all students equally.** Example: An instructor teaches a lecture course with multiple discussion sections taught by graduate teaching assistants. One of the grad TAs gives consistently lower scores than the other four TAs, despite the instructor's efforts to

align the TA's grading expectations. At the end of the semester, the instructor decides either to add points to the scores of all students in the section to increase the mean score or to lower the grade boundaries to correct for the different grading. Either provides an across-the-section correction, and is not a form of norms-based grading.

MOTION: **That the Faculty Senate approve the Guidelines for Assigning Grades in**
34-21 **Undergraduate Courses, as presented in Sen. Doc. No. 21-079.**