## Graduate Student Instructor <br> TEACHING \& RESOURCE CENTER

## Teaching Guide for GSIs

## Grading Student Work

Grading challenges instructors. We want to be sure we are evaluating student work fairly, in the sense that our judgment is not subjective or inconsistent. Students deserve fairness and GSIs work hard to deliver it. But this work can consume a lot of time as we evaluate sometimes subtle differences of accomplishment in problem sets, presentations, essays, and exams, and as we decide how to comment on students' work. GSIs need to make their efforts at grading efficient as well as fair.

Effective grading requires an understanding of how grading may function as a tool for learning, an acceptance that some grades will be based on subjective criteria, and a willingness to listen to and communicate with students. It is important to help students to focus on the learning process rather than on "getting the grade," while at the same time acknowledging the importance that grades hold for students. And since GSIs are students themselves, it's important to balance the requirements of effective grading with other workload and professional commitments.

It helps to consider grading as a process. It is not simply a matter of assigning number or letter grades. As a process grading may involve some or all of these activities:

- Setting expectations with students through a grading policy
- Designing assignments and exams that promote the course objectives
- Establishing standards and criteria
- Calibrating the application of a grading standard for consistency and fairness
- Making decisions about effort and improvement
- Deciding which comments would be the most useful in guiding each student's learning
- Returning assignments and helping students understand their grades

This section contains general tips on how to make your grading both more effective and more efficient. You will also find specific suggestions here about designing assignments, setting standards and policies, using grading rubrics, and writing comments on student work.

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You might also find relevant information in other sections of this online guide, for example, Working with Student Writing (for working with student essays), Academic Misconduct (for addressing cheating and plagiarism), and Evaluating and Improving Your Teaching (for assessing and learning from your efforts).

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## Teaching Guide for GSIs <br> Before You Grade

Grading can often be made more efficient and fair by articulating shared expectations and grading criteria before an assignment starts.

- Grading Policies
- Assignment Design
- Taxonomy of Learning Objectives: Explain What You Want Your Students to Do (pdf)
- Statement of Grading Criteria


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## Before You Grade: Grading Policies

Setting expectations early in the semester helps avoid misunderstandings and challenges later on; a policy on grading articulated up front accomplishes this. Such a policy would include whether late work is accepted and how it is handled, extensions, make-up work, and regrade requests.

Check with the Instructor of Record to see whether he or she already has policies the GSIs will be expected to use. In many teaching contexts it's appropriate for GSIs to draft their own grading policies and include them on their section syllabus. Whether they come from the Instructor of Record or you, these policies can greatly affect your efficiency as a GSI.

The following sample grading policies, developed by GSIs, address the students directly.

## Physics

## Sociology

## From Physics

## The Purpose of Your Homework

The ultimate purpose behind your homework assignments is to provide you with practice applying the physical principles covered in this course. You will also be practicing your general problem-solving skills. Your homework problems should help you develop the following skills:

- Determine relevant physical principles for new problems.
- Correctly set up the problem based on those physical principles.
- Work through the problem to arrive at a solution.
- Check your solution. Does it make physical sense? Does it have the right units?

In addition, you will be developing your mathematical facility.

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## A Job for You

Please look over your assignments and the solutions when they are returned to you, and do not just toss them in the recycling bin. Reviewing solutions is an integral part of the learning process! If you have questions on the solutions, please come discuss them with me in office hours. Also come see me in office hours if you find you are having difficulty with the homework. Lastly, do come to office hours with homework questions prior to the due date.

## General Expectations

- Peer collaboration is highly encouraged. It is a highly efficient and fun way to learn physics. However, your homework must be entirely your own work and in your own words.
- Copying solutions from your peers or other sources is plagiarism and will not be tolerated. Possible consequences of plagiarism and cheating include failing the assignment or exam, failing the course, and/or referral to the Center for Student Conduct.
- Unless otherwise stated in the problem, you must perform all of the mathematical manipulations by hand. It is good practice!
- Show all of your work. Having the correct answer is not enough for credit; you must demonstrate how you arrived at it. This is where all the learning happens. In the event that you have an error in your solution, showing all your work will also help you earn partial credit.
- Assignments must be handwritten. Write neatly, legibly, and large enough to be read without a magnifying glass. If I can't read it, I can't give you credit. Staple your assignments so I can grade all the parts.


## Anonymity

I will grade homework and exams without looking at names.

## Late Work/Extensions/Drops

- No late work and no extensions. Instead, your lowest score on a homework assignment over the course of the semester will be dropped.
- In the event of a serious emergency, please let the instructor know with the maximum possible advance notice.


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## Homework Regrades

- You have one week to request a regrade on an assignment.
- Regrade requests must be accompanied by a written explanation of why you would like your paper regraded.
- When your paper is regraded, your score may go up or down, or remain unchanged.


## From Sociology

## Anonymity

Anonymity means that I will not look at the name on a paper or exam until after I have given it a grade. In order to make this easier, you should write your name, etc., on a cover sheet attached to your paper rather than on the top of the first page of the paper itself. Likewise, do not write your name on each page of your exam; it is sufficient to write it on the cover of your blue book.

## Regrades

GSIs sometimes make mistakes when they are grading papers, quizzes, and exams. If you feel that your GSI has made a mistake, you should ask him or her to regrade your paper.

Here is my policy on regrades:

- I will not accept papers for regrading in the three days following their return to you. The reason for this delay is to give you time to read and think about my comments. Very often students find that comments that don't make sense the first time around become clearer after some reflection and review of the assigned readings, lecture notes, etc.
- Once you have read and thought about any comments on your paper, you have two options: Come to office hours to discuss your paper and my comments on it in greater detail; and/or submit your paper for regrading.
- To have your paper regraded, you must resubmit it to me together with a written explanation of why you think that your initial grade is unfair and ought to be changed. I will only accept papers for regrading if they are accompanied by a written explanation from the student.


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- Finally, please remember that when a paper is regraded it is reassessed from scratch. This means that a regrade could result in a grade that is lower than your initial grade rather than higher. If this happens then you must accept the lower grade.


## Papers, Dates, and Extensions

- All papers should be checked for errors in spelling and grammar before submission. Papers with a large number of errors will be returned unread.
- Papers that are received after the due date will incur a late penalty.
- Papers that are received on the due date but after the due time will receive the same penalty as papers that are received a day late.
- It is the students' responsibility to see that their GSI receives their paper on time. If in doubt, students should double check with their GSI that the paper has been received. This is especially important if the paper has been submitted by a third party or by email.
- Students must keep a copy of their paper and be prepared to submit it to their GSI on request.
- All extensions must be arranged at least three days in advance and students must be prepared to document their reasons for requesting an extension.
- Late papers will only be accepted with a valid, documented excuse.


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## Before You Grade: Assignment Design

As a GSI, you may or may not have input into the course assignments you will grade. Some faculty members prefer to design the course assignments themselves; others ask for substantial input from GSIs. Course assignments can be very particular: They depend on the content and objectives of the course, the teaching methods and style of the instructor, the level and background of the students, and the given discipline.

If you are designing assignments, however, you should take several questions into account:

- What do you want the students to learn? This question involves the fit of the assignment activities with the goals and objectives of the course. How does the assignment contribute to the course goals and objectives?
- What skills do you want students to employ: to solve, to argue, to create, to analyze, to explain, to demonstrate, to apply, etc.? (For more on learning objectives, see Taxonomy of Learning Objectives: Explain What You Want Your Students to Do.)
- How well focused is the assignment from the students' perspective? Does the assignment give the students a clearly defined, unambiguous task? Are the instructions clear and concise? Is the rationale (how it relates to course learning objectives) clear?
- Are practical matters clearly addressed? For instance: How long is the assignment going to be? What should the assignment format be? When will the assignment be due? How will this assignment count toward the students' final course grade? Will you allow students to rewrite the assignment if necessary? (This last question you may want to answer after you've seen the students' work.)
- Do you want students to engage in research that goes beyond the course content, or do you want them to stick to the course materials? If the research goes beyond the course content, are the research materials needed to complete the assignment available in sufficient quantity for everyone to access them within a reasonable time frame?


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- Can this assignment be realistically completed given the knowledge, abilities, and time constraints of the students?
- Is it possible for you to grade this assignment effectively, given your workload and other commitments?
- How much time will you need to grade the assignment? When will you return it to students?


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Taxonomy of Learning Objectives: Explain what You Want Students to Do

## Cognitive Processes



Higher order thinking

Lower order thinking

Students often have trouble with the language of an assignment because it does not tell what kind of intellectual work the assignment calls for. Students may simply summarize (show what they understand) when you want to see them analyze or apply something. The intellectual task can be meaningfully distinguished using verbs supplied by Bloom's Revised Taxonomy of Educational Objectives in the Cognitive Domain.

See Andersion, L. W. and David R. Krathwohl, D. R., et al., eds. A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives. Boston: Allyn \& Bacon, 2001.

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## Definitions and Verbs: Bloom's Taxonomy (Revised)

## Creating

Generating new ideas, systems, syntheses, products, or perspectives
Designing, constructing, planning, formulating, producing, inventing, composing

## Evaluating

Articulating a rationale for a decision or course of action
Checking, critiquing, experimenting, judging, assessing, appraising

## Analyzing

Distinguishing among parts of something to explore functions and relationships Comparing, organizing, breaking down, interrogating, finding the elements

## Applying

Using information learned in one situation in a different situation
Implementing, carrying out, categorizing, using, executing, applying (e.g., a
paradigm or concept)

## Understanding

Explaining ideas or concepts
Interpreting, summarizing, paraphrasing, classifying, explaining

## Remembering

Recalling information
Recognizing, listing, describing, retrieving, naming, finding, matching

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## Before You Grade: Statement of Grading Criteria

Many GSIs like to give their students a statement of their grading philosophy, together with a sample set of criteria for each grade range. Even if you prefer not to do so, you should take the time to think about how you grade and why, and about the criteria that you use in giving each of the grades. Having clear criteria not only saves you time when grading, but it also helps to make the grading process more consistent. In addition, it enables you to explain very clearly to students the kind of work you expect from them and helps students understand why you have given their assignment a certain grade and how their work might be improved. It also enables you to clearly diagnose students' strengths and weaknesses, and thereby to focus on improving the appropriate areas more effectively.

It is also important to discuss your standards and criteria with any other GSIs teaching the same course to ensure that grading is consistent between sections. The Instructor of Record for your course may set the grading criteria for course and section as well. If so, be familiar with these criteria and be able to explain them to students.

Below are sample statements of grading criteria from two disciplines.
Philosophy
Physics

## From Philosophy <br> What Your Grade Means

A-range:
Papers: excellent exposition, clearly and concisely written, well-argued, and displaying good original input from the student.

Exams: answers all parts of the question clearly and concisely. Shows good knowledge and good understanding of the material. Well-argued. Where required, contains good original input from the student.

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B-range:
Papers: good exposition, but lacks clarity and concision, or doesn't have much original input, or offers poor support for important claims. (For instance, a truly excellent expository paper will earn you a B+; a fuzzy but accurate one will earn you a $B-$-).

Exams: shows a good knowledge and fairly good understanding of the material but either fails to answer some parts of the question or is unclear or is poorly argued.

C-range:
Papers: fails to understand some aspects of the material, or is very unclearly written.

Exams: doesn't show a good knowledge of the material or fails to understand some important parts of it, or does not answer a significant portion of the question.

D-range:
Very problematic in all aspects mentioned above. [If you receive this grade, come and see me to discuss what went wrong and how we can avoid it happening again.]

## F:

Papers: did not submit a paper; plagiarized material; made no effort to understand the material or shows no sign of having read it.

Exams: did not sit the exam; cheated in the exam; made no effort to understand the material or shows no sign of having read it; completely failed to answer the question.

## From Physics

## What Your Grade Means (Roughly)

A grade of $\mathbf{1}$ means the work demonstrates no understanding of the relevant concepts.

2 means the work demonstrates a poor understanding of the relevant concepts.
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3 means the work demonstrates a fair understanding of the relevant concepts.
4 means the work demonstrates a good understanding of the relevant concepts.
5 means the work demonstrates a great understanding of the relevant concepts.

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## Grading Rubrics

## What are rubrics?

Rubrics are scales in which the criteria used for grading or assessment are clearly spelled out along a continuum. Rubrics can be used to assess a wide range of assignments and activities in the classroom, from oral presentations to term papers to class participation. There are two main types:

Analytic Rubrics: Separate scales for each trait, or learning outcome, being assessed within the assignment (e.g., separate scales for "Argument," "Organization," "Use of Evidence," etc.)

Holistic Rubrics: A single scale for the assignment considered as a whole. (e.g., one scale describing the characteristics of an "A" assignment, a "B" assignment, or a "C" assignment, etc.)

## Why are rubrics useful?

Increasingly, rubrics are being used in college courses to improve the effectiveness and the efficiency of grading. By making our grading criteria more transparent, a well-considered rubric can both enhance student learning and save us time.

## Rubrics enhance student learning by ...

- anchoring grading to specific learning objectives rather than more subjective, distracting considerations of rank or effort
- improving assignment design by clarifying desired learning outcomes
- contributing to fairness and consistency across sections
- reducing student anxiety about the subjectivity of grading


## Rubrics help you save time by . . .

- narrowing the field of evaluation to desired learning outcomes
- facilitating constructive written comments
- reducing grade challenges
- reducing graders' anxieties about grade inflation and the subjectivity of grading.

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## Grading Rubrics: Steps in the Process

Think through your learning objectives. Put some thought into the various traits, or learning outcomes, you want the assignment to assess. The process of creating a rubric can often help clarify the assignment itself. If the assignment has been well articulated, with clear and specific learning goals in mind, the language for your rubric can come straight from the assignment as written. Otherwise, try to unpack the assignment, identifying areas that are not articulated clearly. If the learning objectives are too vague, your rubric will be less useful (and your students will have a difficult time understanding your expectations). If, on the other hand, your stated objectives are too mechanistic or specific, your rubric will not accurately reflect your grading expectations. For help in articulating learning objectives, see Taxonomy of Learning Objectives: Explain What You Want Your Students to Do (pdf).

Decide what kind of scale you will use. Decide whether the traits you have identified should be assessed separately or holistically. If the assignment is complex, with many variables in play, you might need a scale for each trait ("Analytic Rubric"). If the assignment is not as complex, or the variables seem too interdependent to be separated, you might choose to create one scale for the entire assignment ("Holistic Rubric"). Do you want to use a letter-grade scale, a point scale (which can be translated into a grade at the end), or some other scale of your own devising (e.g., "Proficient," "Fair," "Inadequate," etc.)? This decision will depend, again, on how complex the assignment is, how it will be weighed in the students' final grade, and what information you want to convey to students about their grade. Also, consider how many gradations your scale will have (e.g., three points, five points, etc.). Always use the minimum gradations consistent with your learning objectives. The more gradations your scale has, the harder it will be to apply consistently, and the longer it will take for you to grade. A good rule of thumb is to use six gradations or fewer.

Describe the characteristics of student work at each point on your scale. Once you have defined the learning outcomes being assessed and the scale you want to employ, create a table to think through the characteristics of student work at every

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point or grade on your scale. You might find it helpful to use a Rubric Worksheet for an Essay (doc). Instructors are used to articulating the ideal outcomes of a given assignment. It can be more challenging (but often far more helpful to the students) to articulate the differences, for example, between "C" and "B" work. If you have samples of student work from past years, look them over to identify the various levels of accomplishment. Start by describing the "ideal" outcome, then the "acceptable" outcome, then the "unacceptable" outcome, and fill in the blanks in between. If you don't have student work, try to imagine the steps students will take to complete the assignment, the difficulties they might encounter, and the lower-level achievements we might take for granted.

Test your rubric on student work. It is essential to try your rubric out and make sure it accurately reflects your grading expectations (as well as those of the Instructor of Record and other GSIs). If available, use sample work from previous semesters. Otherwise, test your rubric on a sampling of student papers and then revise the rubric before you grade the rest. Make sure, however, that you are not substantially altering the grading criteria you laid out for your students.

Use your rubric to give constructive feedback to students. Consider handing the rubric out with students' returned work. You can use the rubric to facilitate the process of explaining grades and to provide students with clear instructions about how they can do better next time.

Some instructors prefer not to hand out the rubric, at least in the form that they use in grading. An abbreviated form of the rubric can be developed for student communication both before the paper is handed in and when it's handed back after grading. Here is an example of an assignment grading rubric from Integrative Biology (pdf).

Use your rubric to clarify your assignments and to improve your teaching. The process of creating a rubric can help you create assignments tailored to clear and specific learning objectives. Next time you teach the assignment, use your rubric to fine-tune the assignment description, and consider handing out the rubric with the assignment itself. Rubrics can also provide you, as the teacher, with important

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feedback on how well your students are meeting the learning outcomes you've laid out for them. If most of your students are scoring a " 2 " on "Clarity and Strength of Argument," then you know that next time you teach the course you need to devote more classroom time to this learning goal.

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## Grading Rubrics: Examples of Rubric Creation

Creating a rubric takes time and requires thought and experimentation. Here you can see the steps used to create two kinds of rubric: one for problems in a physics exam for a small, upper-division physics course, and another for an essay assignment in a large, lower-division sociology course.

## Physics Exam Problems

In STEM disciplines (science, technology, engineering, and mathematics), assignments tend to be analytical and problem-based. Often holistic rubrics are the most efficient, consistent, and fair way to grade a problem set. When starting to grade a problem, it is important to think about the relevant conceptual ingredients in the solution. Then look at a sample of student work to get a feel for student mistakes. Decide what rubric you will use (e.g., holistic or analytic, and how many points). Apply the holistic rubric by marking comments and sorting the students' assignments into stacks (e.g., five stacks if using a five-point scale). Finally, check the stacks for consistency and mark the scores. The following is a sample homework problem from a UC Berkeley Physics Department undergraduate course in quantum mechanics.

## Homework Problem

A free electron of mass $m 0$ is initially at rest until a photon of energy E Compton scatters off of it. Find the equation describing the maximum recoil energy of the electron and evaluate it for E $=1 \mathrm{MeV}$.

## Learning Objective

Understand Compton scattering and apply the concepts in a calculation. The discovery of Compton scattering was important in the early development of Quantum Mechanics because it illustrates the quantum nature of light and cannot be correctly described using classical electromagnetism.

## Desired Traits: Conceptual Elements Needed for the Solution

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- Compton scattering for photon: the relationship between the change in photon wavelength and angle of scattering (derived using energy and momentum conservation)
- Relationship between photon wavelength and energy
- How the electron recoil energy relates to the change in photon energy
- How to maximize this relationship
- Evaluate for the given photon energy


## Scale

A note on analytic rubrics: If you decide you feel more comfortable grading with an analytic rubric, you can assign a point value to each concept. The drawback to this method is that it can sometimes unfairly penalize a student who has a good understanding of the problem but makes a lot of minor errors. Also, one must assign a point-value to every type of error made by your students, and the variety of mistakes can be staggering. Because the analytic method tends to have many more parts, the method can take quite a bit more time to apply. In the end, your analytic rubric should give results that agree with the common-sense assessment of how well the student understood the problem. This sense is well captured by the holistic method.

A holistic rubric, closely based on a rubric by Bruce Birkett and Andrew Elby:

| Points | If... |
| :--- | :--- |
| $\mathbf{5}$ | The student clearly understands how to solve the problem. Minor <br> mistakes and careless errors can appear insofar as they do not indicate <br> a conceptual misunderstanding.[a] |
| $\mathbf{4}$ | The student understands the main concepts and problem-solving <br> techniques, but has some minor yet non-trivial gaps in their reasoning. |

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| $\mathbf{3}$ | The student has partially understood the problem. The student is not <br> completely lost, but requires tutoring in some of the basic concepts. <br> The student may have started out correctly, but gone on a tangent or <br> not finished the problem. |
| :--- | :--- |
| $\mathbf{2}$ | The student has a poor understanding of the problem. The student <br> may have gone in a not-entirely-wrong but unproductive direction, or <br> attempted to solve the problem using pattern matching or by rote. |
| $\mathbf{1}$ | The student did not understand the problem. They may have written <br> some appropriate formulas or diagrams, but nothing further. Or they <br> may have done something entirely wrong. |
| $\mathbf{0}$ | The student wrote nothing or almost nothing. |

[a] This policy especially makes sense on exam problems, for which students are under time pressure and are more likely to make harmless algebraic mistakes. It would also be reasonable to have stricter standards for homework problems.

## Sociology Research Paper

An introductory-level, large-lecture course is a difficult setting for managing a student research assignment. With the assistance of an instructional support team that included a GSI teaching consultant and a UC Berkeley librarian[b], sociology lecturer Mary Kelsey developed the following assignment:

Write a seven- to eight-page essay in which you make an argument about the relationship between social factors and educational opportunity. To complete the assignment, you will use electronic databases to gather data on three different high schools (including your own). You will use this data to locate each school within the larger social structure and to support your argument about the relationship between social status and public school quality. In your paper you should also reflect on how your own personal educational opportunities have been influenced by the social factors you identify. Course readings and materials should be used as background, to define sociological concepts and to place your argument within a broader discussion of the relationship between social status and individual opportunity. Your paper should be clearly organized, proofread for grammar and spelling, and all scholarly ideas must be cited using the ASA style manual.

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This was a lengthy and complex assignment worth a substantial portion of the course grade. Since the class was very large, the instructor wanted to minimize the effort it would take her GSIs to grade the papers in a manner consistent with the assignment's learning objectives. For these reasons Dr. Kelsey and the instructional team gave a lot of forethought to crafting a detailed grading rubric.

## Desired Traits

- Argument
- Use and interpretation of data
- Reflection on personal experiences
- Application of course readings and materials
- Organization, writing, and mechanics


## Scale

For this assignment, the instructional team decided to grade each trait individually because there seemed to be too many independent variables to grade holistically. They could have used a five-point scale, a three-point scale, or a descriptive analytic scale. The choice depended on the complexity of the assignment and the kind of information they wanted to convey to students about their work.

Below are three of the analytic rubrics they considered for the Argument trait and a holistic rubric for all the traits together. Lastly you will find the entire analytic rubric, for all five desired traits, that was finally used for the assignment. Which would you choose, and why?

## Five-Point Scale

| Grade/ <br> Point | Characteristics |
| :--- | :--- |
| 5 | Argument pertains to relationship between social factors and <br> educational opportunity and is clearly stated and defensible. |

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| 4 | Argument pertains to relationship between social factors and <br> educational opportunity and is defensible, but it is not clearly stated. |
| :--- | :--- |
| 3 | Argument pertains to relationship between social factors and <br> educational opportunity but is not defensible using the evidence <br> available. |
| 2 | Argument is presented, but it does not pertain to relationship between <br> social factors and educational opportunity. |
| 1 | Social factors and educational opportunity are discussed, but no <br> argument is presented. |

## Three-Point Scale

| Grade/ <br> Point | Characteristics |
| :--- | :--- |
| $\mathbf{3}$ | Argument pertains to relationship between social factors and <br> educational opportunity and is clearly stated and defensible. |
| $\mathbf{2}$ | Argument pertains to relationship between social factors and <br> educational opportunity but may not be clear or sufficiently narrow in <br> scope. |
| $\mathbf{1}$ | Social factors and educational opportunity are discussed, but no <br> argument is presented. |

## Simplified Three-Point Scale, numbers replaced with descriptive terms

| Ideal Outcome | Proficient | Fair | Inadequat <br> e |
| :--- | :--- | :--- | :--- |

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> Argument pertains to relationship between social factors and educational opportunity and is clearly stated and defensible

|  |  |  |
| :--- | :--- | :--- |
|  |  |  |

## Holistic Rubric

For some assignments, you may choose to use a holistic rubric, or one scale for the whole assignment. This type of rubric is particularly useful when the variables you want to assess just cannot be usefully separated. We chose not to use a holistic rubric for this assignment because we wanted to be able to grade each trait separately, but we've completed a holistic version here for comparative purposes.

| Grade/ <br> Point | Characteristics |
| :--- | :--- |
| A | The paper is driven by a clearly stated, defensible argument about the <br> relationship between social factors and educational opportunity. <br> Sufficient data is used to defend the argument, and the data is <br> accurately interpreted to identify each school's position within a larger <br> social structure. Personal educational experiences are examined <br> thoughtfully and critically to identify significance of external social <br> factors and support the main argument. Paper reflects solid <br> understanding of the major themes of the course, using course <br> readings to accurately define sociological concepts and to place the <br> argument within a broader discussion of the relationship between <br> social status and individual opportunity. Paper is clearly organized <br> (with an introduction, transition sentences to connect major ideas, and <br> conclusion) and has few or no grammar or spelling errors. Scholarly <br> ideas are cited correctly using the ASA style guide. |

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| B | The paper is driven by a defensible argument about the relationship <br> between social factors and public school quality, but it may not be <br> stated as clearly and consistently throughout the essay as in an "A" <br> paper. The argument is defended using sufficient data, reflection on <br> personal experiences, and course readings, but the use of this <br> evidence does not always demonstrate a clear understanding of how <br> to locate the school or community within a larger class structure, how <br> social factors influence personal experience, or the broader <br> significance of course concepts. Essay is clearly organized, but might <br> benefit from more careful attention to transitional sentences. Scholarly <br> ideas are cited accurately, using the ASA style sheet, and the writing is <br> polished, with few grammar or spelling errors. |
| :--- | :--- |
| C | The paper contains an argument about the relationship between social <br> factors and public school quality, but the argument may not be <br> defensible using the evidence available. Data, course readings, and <br> personal experiences are used to defend the argument, but in a <br> perfunctory way, without demonstrating an understanding of how <br> social factors are identified or how they shape personal experience. <br> Scholarly ideas are cited accurately, using the ASA style sheet. Essay <br> may have either significant organizational or proofreading errors, but <br> not both. |
| D | The paper does not have an argument, or is missing a major <br> component of the evidence requested (data, course readings, or <br> personal experiences). Alternatively, or in addition, the paper suffers <br> from significant organizational and proofreading errors. Scholarly ideas <br> are cited, but without following ASA guidelines. |
| F | The paper does not provide an argument and contains only one <br> component of the evidence requested, if any. The paper suffers from <br> significant organizational and proofreading errors. If scholarly ideas |

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|  | are not cited, paper receives an automatic "F." |
| :--- | :--- |

## Final Analytic Rubric

This is the rubric the instructor finally decided to use. It rates five major traits, each on a five-point scale. This allowed for fine but clear distinctions in evaluating the students' final papers.

| Argument |  |
| :--- | :--- |
| $\mathbf{5}$ | Argument pertains to relationship between social factors and <br> educational opportunity and is clearly stated and defensible. |
| $\mathbf{4}$ | Argument pertains to relationship between social factors and <br> educational opportunity and is defensible, but it is not clearly stated. |
| $\mathbf{3}$ | Argument pertains to relationship between social factors and <br> educational opportunity but is not defensible using the evidence <br> available. |
| $\mathbf{2}$ | Argument is presented, but it does not pertain to relationship between <br> social factors and educational opportunity. |
| $\mathbf{1}$ | Social factors and educational opportunity are discussed, but no <br> argument is presented. |
| Interpretation and Use of Data |  |
| $\mathbf{5}$ | The data is accurately interpreted to identify each school's position <br> within a larger social structure, and sufficient data is used to defend <br> the main argument. |
| $\mathbf{4}$ | The data is accurately interpreted to identify each school's position <br> within a larger social structure, and data is used to defend the main <br> argument, but it might not be sufficient. |

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| $\mathbf{3}$ | Data is used to defend the main argument, but it is not accurately <br> interpreted to identify each school's position within a larger social <br> structure, and it might not be sufficient. |
| :--- | :--- |
| $\mathbf{2}$ | Data is used to defend the main argument, but it is insufficient, and no <br> effort is made to identify the school's position within a larger social <br> structure. |
| $\mathbf{1}$ | Data is provided, but it is not used to defend the main argument. |
| $\mathbf{5}$ | Personal educational experiences are examined thoughtfully and <br> critically to identify significance of external social factors and support <br> the main argument. |
| $\mathbf{4}$ | Personal educational experiences are examined thoughtfully and <br> critically to identify significance of external social factors, but relation <br> to the main argument may not be clear. |
| $\mathbf{3}$ | Personal educational experiences are examined, but not in a way that <br> reflects understanding of the external factors shaping individual <br> opportunity. Relation to the main argument also may not be clear. |
| $\mathbf{2}$ | Personal educational experiences are discussed, but not in a way that <br> reflects understanding of the external factors shaping individual <br> opportunity. No effort is made to relate experiences back to the main <br> argument. |
| $\mathbf{A}$ | Personal educational experiences are mentioned, but in a perfunctory <br> way. |
| $\mathbf{A p p l i c a t i o n ~ o f ~ C o u r s e ~ R e a d i n g s ~ a n d ~ M a t e r i a l s ~}$ |  |

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| $\mathbf{5}$ | Demonstrates solid understanding of the major themes of the course, <br> using course readings to accurately define sociological concepts and to <br> place the argument within a broader discussion of the relationship <br> between social status and individual opportunity. |
| :--- | :--- |
| $\mathbf{4}$ | Uses course readings to define sociological concepts and place the <br> argument within a broader framework, but does not always <br> demonstrate solid understanding of the major themes. |
| $\mathbf{3}$ | Uses course readings to place the argument within a broader <br> framework, but sociological concepts are poorly defined or not defined <br> at all. The data is not all accurately interpreted to identify each school's <br> position within a larger social structure, and it might not be sufficient. |
| $\mathbf{2}$ | Course readings are used, but paper does not place the argument <br> within a broader framework or define sociological concepts. |
| $\mathbf{1}$ | Course readings are only mentioned, with no clear understanding of <br> the relationship between the paper and course themes. |
| Organization, Writing, and Mechanics |  |
| $\mathbf{5}$ | Clear organization and natural "flow" (with an introduction, transition <br> sentences to connect major ideas, and conclusion) with few or no <br> grammar or spelling errors. Scholarly ideas are cited correctly using the <br> ASA style guide. |
| $\mathbf{4}$ | Clear organization (introduction, transition sentences to connect major <br> ideas, and conclusion), but writing might not always be fluid, and might <br> contain some grammar or spelling errors. Scholarly ideas are cited <br> correctly using the ASA style guide. |
| $\mathbf{3}$ | Organization unclear or the paper is marred by significant grammar or <br> spelling errors (but not both). Scholarly ideas are cited correctly using |

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|  | the ASA style guide. |
| :--- | :--- |
| $\mathbf{2}$ | Organization unclear and the paper is marred by significant grammar <br> and spelling errors. Scholarly ideas are cited correctly using the ASA <br> style guide. |
| $\mathbf{1}$ | Effort to cite is made, but the scholarly ideas are not cited correctly. <br> (Automatic "F" if ideas are not cited at all.) |

[b] These materials were developed during UC Berkeley's 2005-2006 Mellon Library/Faculty Fellowship for Undergraduate Research program. Members of the instructional team who worked with Lecturer Kelsey in developing the grading rubric included Susan Haskell-Khan, a GSI Center teaching consultant and doctoral candidate in history, and Sarah McDaniel, a teaching librarian with the Doe/Moffitt Libraries.

## Teaching Guide for GSIs

## Grading Rubrics: Practice Creating a Rubric

Take a few moments to think about what the following assignments are asking for. Use the worksheet provided to begin creating a rubric.

Download a Rubric Worksheet (doc)

## Essay Assignment

Assume that students are writing this paper for an introductory-level course on Greek civilization:

From any of the works assigned from Week 5 onward in the course, select a passage that you found particularly memorable and meaningful. Justify your choice by analyzing the artistry and argument of the passage and by discussing such questions as how the passage fits into the work as a whole, how it is characteristic or uncharacteristic of its author or genre or the tradition of Greek culture. The length of the passage you select should be at least half a page of prose or about 30 lines of verse, but it may of course be longer.

## Problem-Based Assignment

If you work in the sciences, you might prefer to practice with a physics problem.

- Static Physics Problem 1 (pdf)
- Static Physics Problem 2 (pdf)


## Teaching Guide for GSIs

## Rubric Worksheet

List the traits you want the assignment to measure (usually in nouns or noun phrases):
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

Use the following chart to create a rubric. Either fill out one chart for the entire assignment (holistic rubric) or fill out one chart for each trait or learning objective (analytic rubric).
Trait/Assignment being Assessed: $\qquad$

Grade /
Points: Characteristics:

|  |  |
| :--- | :--- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

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## Grading Rubrics: Practice Using a Rubric

If you will be grading essays, you may want to practice with one of the following essay examples. If you work in the sciences, you may want to work with the physics homework problem (below the essay examples).

## Student Essays

Open a generic essay rubric in a separate tab or window. Choose one of the sample papers linked below and grade it, using the linked rubric. You might start by focusing on a single trait listed in the rubric, such as "Organization."

Does Travel Influence What's Good to Eat and Bad to Eat? (pdf)
Dehumanization in Laissez-Faire Capitalist World (pdf)
Parmenides (pdf)

## Physics Homework Problem

A free electron of mass $m 0$ is initially at rest until a photon of energy E Compton scatters off of it. Find the equation describing the maximum recoil energy of the electron and evaluate it for $\mathrm{E}=1 \mathrm{MeV}$.

Solution 1 (pdf)
Solution 2 (pdf)
Solution 3 (pdf)
Solution 4 (pdf)
Solution 5 (pdf)
Holistic rubric closely based on one by Bruce Birkett and Andrew Elby:

| Points | If... |
| :--- | :--- |
| 5 | The student clearly understands how to solve the problem. Minor <br> mistakes and careless errors can appear insofar as they do not <br> indicate a conceptual misunderstanding. |

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| 4 | The student understands the main concepts and problem-solving <br> techniques, but has some minor yet non-trivial gaps in their <br> reasoning. |
| :--- | :--- |
| 3 | The student has partially understood the problem. The student is not <br> completely lost, but requires tutoring in some of the basic concepts. <br> The student may have started out correctly, but gone on a tangent or <br> not finished the problem. |
| 2 | The student has a poor understanding of the problem. The student <br> may have gone in a not-entirely-wrong but unproductive direction, or <br> attempted to solve the problem using pattern matching or by rote. |
| 1 | The student did not understand the problem. They may have written <br> some appropriate formulas or diagrams, but nothing further. Or, they <br> may have done something entirely wrong. |
| 0 | The student wrote nothing or almost nothing. |

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Generic Rubric for Practice

| Grading <br> Criteria | Poor (1) | Below <br> Average (2) | Average (3) | Good (4) | Excellent (5) |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Organization | The essay is <br> unclear with <br> no <br> organization. | The main <br> points of the <br> essay are <br> ambiguous. | Writing has <br> minimal <br> organization <br> and a basic <br> thesis <br> statement. | Writing <br> follows a <br> logical <br> organizaiton, <br> but <br> sometimes <br> drifts from <br> the thesis. | Writing is <br> clear, logical, <br> and very <br> organized <br> around a <br> developed <br> thesis. |
| Evidence | The essay <br> does not <br> attempt to <br> used evidence <br> to support <br> thesis. | The evidence <br> provided does <br> not support <br> the thesis. | The use of <br> evidence is <br> minimal, but it <br> does support <br> thesis. | There is <br> evidence to <br> support <br> almost every <br> point. | Every point is <br> clearly <br> supported by <br> strong <br> evidence. |
| Analysis | The essay <br> does not <br> attempt to <br> explain how <br> the evidence <br> relates to <br> thesis. | The analysis <br> of the <br> evidence has <br> no relation to <br> the thesis. | The analysis <br> of the <br> evidence <br> stretches its <br> meaning to <br> support <br> thesis. | The analysis <br> explains how <br> the evidence <br> supports the <br> thesis in most <br> cases. | The analysis <br> shows a <br> strong <br> relationship <br> between the <br> evidence and <br> the thesis. |

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## Tips on Grading Efficiently

As a GSI, you have many demands on your time. Too often, time spent grading takes away from time spent doing your own coursework or research. Fortunately, there are some strategies you can use to make the grading process more efficient. Although all of the materials in this section of the Teaching Guide are designed to help you with consistent, fair, and efficient grading, there are some additional tips on efficiency that are worth emphasizing.

## At the Very Beginning

Consider the course grading policies. You can save a lot of time by discouraging superfluous regrade requests and late work.

Consider the assignment design. Clearly worded assignments and clear learning objectives will greatly improve grading efficiency. Make sure that exam questions are vetted thoroughly prior to the exam!

Don't waste time on careless student work. Walvoord and Anderson give the example of a faculty member who asks students to complete the following checklist and attach it to their papers (Barbara E. Walvoord and Virginia Johnson Anderson [1998], Effective Grading: A Tool for Learning and Assessment [San Francisco: Jossey-Bass], 128-29):

- I read the short story at least twice.
- I revised this paper at least once.
- I spent at least five hours on this paper.
- I started work on this paper at least three days ago.
- I have tried hard to do my best work on this paper.
- I proofread this paper at least twice for grammar and punctuation.
- I asked at least one other person to proofread the paper.
- I ran the paper through a spell checker.

It's also fair to specify the physical form in which students hand in their work. Is it easiest for you to work with papers that are single- or double-sided? Single- or double-spaced? Stapled, paper-clipped, or in a folder? Printed in black ink, or is another color okay? What font size and type is easiest to read? On exams, make Graduate Student Instructor Teaching \& Resource Center, Graduate Division, UC Berkeley © 2021 Regents of the University of California

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sure that the cover page has a place for students to write their name, student identification number (SID), section, and GSI name. It's also useful to include a grade table on the cover such as the following:

| Exam <br> Section | Grade |
| :---: | :---: |
| 1 |  |
| 2 |  |
| Total Score |  |

Faculty members recommend this table both to streamline recording of grades and to discourage potential student tampering with grades. (Definitely use ink when you fill it out, and all changes to the grades should be initialed by you.)

Consider blind grading. Have your students label their assignments and exams with their SIDs and not their names.

## Before You Grade

Spell out the criteria you will be using as specifically as possible, and come to an agreement with your instructor or fellow GSIs about how grades will be determined. Try creating a rubric, or grading scale, and test it out on a sampling of papers. It may also be helpful to look at a representative sampling of student work to get a sense of the common errors prior to creating your rubric.

Always use the minimum number of gradations consistent with the learning objectives. Why grade on a six-point scale when pass/not pass would be sufficient (and significantly more efficient)?

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Ask yourself: Is this rubric fair? Does it appropriately weight the understanding the students exhibit? Does it reflect the assignment's learning objectives and the assignment prompt?

Making your grading criteria more explicit both enhances student learning and reduces the time you spend determining and justifying grades.

## While You are Grading

Grade while you are in a good mood.
Grade with company! In addition to being more fun, the other GSIs are a resource for grading questions. Also, if you are grading a large lecture course, it can streamline the grading consistency checks. To ensure consistency, exchange a few papers in each score range with the other GSIs, and grade them independently. Compare the scores and take corrective action if necessary.

Time yourself. Try to limit how long you spend grading each assignment (e.g., I want to grade on average 20 problems per hour). If you find yourself puzzling over a particular paper, set the paper aside to grade last, when your sense of all of the students' work has been fully developed.

If you are blind-grading, keep your grades in a file organized by student ID number (SID), separate from the file that matches the SIDs to names. This ensures objectivity. Or, less formally, you can just make it a practice not to look at student names while grading.

If the assignment has disjointed parts, grade each part separately (e.g., if an assignment consists of three problems, grade the first problem for the entire class before you proceed to grading the second problem, etc.). This will help you grade consistently as well as efficiently.

Sort the assignments into stacks as you grade (one stack for each grade). When you are done, check through each stack for consistency. Once you are satisfied, mark the assignments with the scores.

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Make notes to yourself as you grade. This will help with consistency and make it easier to find student work if you change your mind.

You are likely to take a break in the middle of the grading task. When you resume grading, first look at papers you've already graded to reset your mental scale.

When you are finished grading, look again at the first few assignments you graded to see if you still agree with yourself.

## Commenting on Student Work

Identify common problems students had with an assignment and prepare a handout addressing those problems. This helps you to avoid having to write the same comments multiple times. It also enables you to address the problem in more detail and helps students realize that others share the same problems.

Type your comments. This has a number of advantages. It allows you to keep a computer record of each student's progress over the semester; comments can be more detailed; longer comments on common problems can be cut and pasted from one assignment to another; and it is easier for the students to read what you have written.

Do not comment on every problem or point. Focus on a couple of major points. This not only helps you to grade more efficiently, it also avoids overwhelming the students. It enables them to focus more effectively on the areas of their work that most need improvement.

Consider asking students to turn in a cover page with their own evaluation of their work's strongest and weakest points as well as the students' thoughts on how they could improve the work. Your comments can be better tailored to each student's concerns about the work.

Make sure you've included enough comments that the students can discern why they received a particular grade and how to improve their future work for higher grades.

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Use the words "see me" instead of writing lengthy explanations. It can be much more efficient to explain some issues face to face. Keep track and remind students if they forget to follow through.

Use a short-hand code for common errors, and give students the key.

## After You've Graded

If appropriate for your course or section, use a spreadsheet or the Grades tool in bCourses to calculate grades. It may take a little time to learn how to use these if you are not familiar with them, but the savings in time can be considerable if you are working with grade points or differently weighted letter grades. Back up all electronic records!

If a student consistently turns in unsatisfactory work, meet with him or her to figure out why and develop a plan of action. Often a student just needs a more efficient study strategy.

Hand back work at the end of section to limit the impact on class time. Discuss common problems with the class.

## If, After All of This, Grading Is Still Taking Over Your Life...

Document how much time you are spending, and on what, and re-evaluate. Can you pare down anywhere?

Let your Instructor of Record know there is a problem and try discussing some options. Perhaps you can change the grading criteria to streamline the process. Ask yourself: Is it necessary to grade every problem on an assignment? Occasionally, instructors in the problem-based disciplines decide to grade a random subset of problems on an assignment (after informing the students, of course). Are comments (instead of a grade) sufficient on rough drafts? Can you use a simpler rubric (e.g., pass/not pass instead of a five-point scale)? Can you have the students grade each other's quizzes in section?

If you are in danger of exceeding your appointment time and have already discussed things with the Instructor of Record, you can speak with your department's Faculty Adviser for GSI Affairs.
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## Calculating Grades

For most GSIs, it is the Instructor of Record who establishes the grading scheme for a course. However, as you take on more responsibility for course design later on, you may want to know more about the choices you have and the assumptions those choices rest on.

The following material is based on Effective Grading: A Tool for Learning and Assessment by Barbara E. Walvoord and Virginia Johnson Anderson (San Francisco: Jossey-Bass, 1998), 93-104.

Walvoord and Anderson describe three basic models used to weight assignments and calculate final grades: weighted letter grades, accumulated points, and a definitional system.

## Letter Grades

In this model, each graded activity or performance or product counts for a fixed percentage of the final course grade. The instructor has decided that each activity is sufficiently distinct from the others to merit a differential value in the overall system. For example:

| Paper/exam 1 | $20 \%$ |
| :--- | :--- |
| Paper/exam 2 | $25 \%$ |
| Paper/exam 3 | $35 \%$ |
| Homework and participation | $20 \%$ |

Using this model, an instructor can give the early assignment a lower-stakes grade to allow for lower student skill levels at the beginning of the course, and reward improvement later in the course.

## Accumulated Points

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Using this model, an instructor assigns a maximum number of points to each activity, performance, or product. However, the scale (the relationship of point values to letter grades) can be flexible.

The scale could be inflexible, for example 100 to 91 points = A, 90 to 81 points = B, 80 to 70 points = C, etc. In this case the point system becomes a variant of weighted letter grades (see above).

Flexibility comes in when, for example, an instructor decides that it is the overall performance in the course, not necessarily in each distinct component of the course, that matters most. If a student does very poorly in one course unit, she can make up for the low number of points scored in that unit by doing very well in another one. The points become, in a sense, transferable. One way to arrange this is for the instructor to make it possible to earn 1050 points in all the activities of the course, and stipulate that an A grade falls within the range of 901 to 1000 points. Fifty points are available to make up for a student's low point in the semester.

Comparing the flexible accumulated points model with fixed percentages shows a distinct difference in instructional assumptions.

## Definitional System

In the definitional system the instructor defines a standard for each category of work for a course, and students have to meet those standards for every category. So, for example, let's say that the instructor stipulates the following scale for the homework category:

| Turn in $90+\%$ of homework | A |
| :--- | :--- |
| Turn in 80 to $89 \%$ | B |
| Turn in 70 to $79 \%$ | C |
| Turn in 60 to $69 \%$ | D |

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The instructor also explains to students that without an A in the homework category it will be impossible to get an A in the course (since an A by the instructor's definition means exemplary work in every aspect of the course). If a student gets As on all the other assignments but a B on the homework, then the final course grade is a B. This instructor highly values students coming fully prepared to each class meeting and makes it a priority through this definitional grading system. Homework (which usually translates to quality of class participation) has a decisive value in the final grade regardless of how a student performs on major assignments.

## Help Students Understand Your Grading System

Whatever model you adopt, you will need to make sure students understand how course grades are calculated and explain to them why you have chosen the model you have, weighted grades the way you have, and so on. Finally, develop a clear policy about extra-credit assignments and grade penalties, and distribute this policy to students in written form early in the semester. This heads off grade disputes later on.

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## Communicating with Students about Their Grades

Students sometimes think of grades as indicators of their worth or future opportunities, and they may fixate on their grades more than what they could be learning. Instructors, however, assign grades in a process of giving students feedback about their learning. It's vital for students to learn from their work and GSI feedback should help that happen.

For more about student motivation and grading, see the How Students Learn talk Why Students Learn and (Sometimes) Don't Learn.

Writing Comments on Student Work
Practice Commenting on Sample Papers
Returning Student Work
Helping Students Understand Their Grades

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## Writing Comments on Student Work

Your written comments on students' work should be used to help them understand the strengths and weaknesses of their work, and to make clear how their work has or has not achieved the goals and standards set in the class. Here are some suggestions on how to make your comments meaningful to students. For more detailed advice about writing comments on papers, see Commenting on Student Papers.

- Think about the sorts of comments that you find helpful and unhelpful. For example, avoid one-word comments such as "good," "unclear," or "awkward." If you think that something is good, unclear, or awkward you should explain in concrete terms why you think so ("You develop the implications very effectively here") or propose an alternative ("Did you mean $x$ ?").
- Think about the extent to which you want to comment on each aspect of the assignment. For example, how important are punctuation and spelling? Is it enough to have one or two comments on grammar or syntax, or would more extensive comments be appropriate?
- Don't overwhelm the student with a lot of different comments. Approximately one to three comments per page will be enough. Focus on a couple of major points rather than comment on everything.
- Write specific comments in the margin and more general comments at the end of the assignment. General comments give the students an overall sense of what went right or wrong and how they might improve their work in the future. Specific comments identify particular parts of the assignment that are right or wrong and explain why.
- What has been omitted from the paper or exam response is as important as what has been included. Ask questions to point out something that's missing or to suggest improvements. Try to give the students a good overall sense of how they might improve their work.
- Don't comment exclusively on weaknesses. Identify strengths and explain them. This helps students know their progress, and helps them build their skills. Write as many comments on good work as on bad work. In addition to


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commenting on things the student does well, think about how the student might work to improve his or her writing even further.

- Write legibly or type your comments.
- Don't be sarcastic or make jokes. What seems funny to you may be hurtful to students and not provide the guidance they need for improvement.
- Discuss difficult cases with other GSIs or the instructor in charge.
- Keep a record of common problems and interesting ideas to discuss in class.
- Make sure you have adequately explained the reason for the grade.


## Questions to Ask Yourself When Writing Comments

- What are the strengths in this piece of work? What are the weaknesses? What stands out as memorable or interesting?
- Does the work have a clear thesis or main point, either explicit or implicit? Is it clear what point the author is trying to make and why? Are the main points and ideas clear? Are they specific enough? Are they clearly related to the assignment?
- Does the author provide sufficient evidence or argumentative support?
- Is the writing clear, concise, coherent, and easy and interesting to read? Are the grammar and syntax acceptable? Is the writing style appropriate? Does the author understand all of the words and phrases that they are using?
- Does the work have a clear, logical structure? Are the transitions clear? Is there one main point per paragraph?
- Are the factual claims correct?
- Does the author provide the appropriate citations and bibliographical references?


## Teaching Guide for GSIs

## Practice Commenting on Sample Papers

It can be helpful to practice commenting on papers. This page links to three sample essays below. The instructions for each are different, and your comments should serve different purposes. Try to adhere to the instructions, keeping in mind the purpose of your comments.

Your comments will not be right or wrong. If you would like feedback on your comments, please email us a copy (gsi@berkeley.edu).

Comment: Does Travel Influence What's Good and Bad to Eat? (pdf)
Comment: Dehumanization in Laissez-Faire Capitalist World (pdf)
Comment: Parmenides (pdf)

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## Returning Student Work

There are good reasons to return student work at the end of class. If you return assignments at the start of class or section, students may be distracted by reading comments rather than focusing on the lecture or discussion. Don't leave papers or exams in a pile on the desk during class; put them out of sight where they will not distract students. If there are several GSIs for a course, try to return assignments in all sections on the same day. Students resent it if assignments for one section are returned significantly earlier or later than assignments for another section.

Before returning student work, let students know when your next office hour will be or when they can come to you to discuss comments or grades. It is a good idea to leave at least one full day between the time you return assignments and the time you allow students to come to discuss them with you. This gives them time to think about your comments first. It also allows students to respond more rationally, rather than emotionally, to your feedback.

Some students are hesitant to discuss a grade that they don't understand or they feel is unfair. Reminding students of your policy on regrades, or furnishing them with a fresh copy along with their graded assignment, can encourage students to think through the grader's comments before they discuss their grade with you.

See Before You Grade: Grading Policies for sample policies GSIs have used in sociology and in physics.

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## Helping Students Understand Their Grades

You can help students understand their grades better by ...

- discussing your criteria for grades
- discussing the role of grades with respect to the goals of the course
- doing some grading exercises with students in section

Grades have at least three functions: evaluation of students' work, communication about how they might improve, and motivation for them to do so. Students often do not fully appreciate these functions; instead, they tend to see grades as rewards or punishments for effort or tickets to success or failure in life. For example, a student who has put a lot of effort into a mediocre paper may feel that he or she deserves a higher grade simply because of that effort. It is helpful to discuss the criteria for grades and their goals with respect to the course in advance of the first graded assignment.

Below are some exercises to help students to develop a better appreciation of the grading process.

## Peer Review

Assign a short paper or ask students to bring a draft of their next assigned paper. Split students into pairs or small groups and have them read and evaluate each other's papers together. Structure their time by giving them a checklist of tasks to work through as they review each other's work. For example, ask them to begin by working out a set of criteria to be used in evaluation. This exercise can be effective in getting students to think more deeply about the assessment process.

A similar exercise may be done with anonymous sample papers provided by the instructor. These can be actual papers with the students' names removed (always ask the student writer's permission before you show others his or her work) or papers that the GSI has written for this purpose.

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## Discuss Sample Papers

Identify sample assignments in each grade range, copy them and remove names, and discuss your comments and grades with students in section. (Again, always ask the writer's permission before you do this, and discuss each paper in a section in which its author is not present.) Explain why you chose to comment as you did and what criteria you used, and ask the students for suggestions about how the work might be improved. It is often interesting to have students vote on what grade they would give a particular assignment before telling them what grade it actually received. Surprisingly, students tend to assign lower grades than the actual one the instructor gave.

## Address the Reasons for Low Grades

Upon seeing a disappointing grade, most students will wonder: "What went wrong?" Wherever they may be inclined to lay blame, they are keenly interested in figuring out how they could have done better.

Sometimes students think that if they talk around a short-answer exam item without giving the key terms, they should get credit for the item anyway. Microbial and Cell Biology GSI Seemay Chou addressed this problem by helping students understand why the key terms are important to the way scientists think, and by giving them motivating ways to practice using the key terms in section. Seemay's Teaching Excellence Award essay sums up her approach.

Inefficient study habits coupled with anxiety can also result in low grades. Consider asking students how they go about studying for an exam - how early they begin studying, whether they try to anticipate what will be on the test, whether they practice writing about concepts the test will likely address. Many GSIs have found that working with students on their exam preparation strategies serves them well. A good example of this is Emily Hamilton's intervention in a history section, which also won her a Teaching Excellence Award. There are several other TEA essays in the Award-Winning GSI Teaching Ideas section that can give you ideas for turning a disappointing exam grade into a valuable learning experience.

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## Grading Student Work: Additional Resources

Sample grading rubrics can be found online through a search engine. Be sure to locate examples from university education (higher education, post-secondary education) rather than kindergarten through twelfth grade (K-12).

Award-Winning GSI Teaching Ideas. Read about creative solutions to classroom assessment developed by fellow GSIs.

Chapters and articles on grading and assessment of student work can be found in the GSI Teaching \& Resource Center's library:

- Ronkowski, Shirley (2003). "Evaluating What You've Done." Chap. 2 in TAs as Teachers: A Handbook for Teaching Assistants at UCSB. Santa Barbara: Instructional Development. This chapter has particularly useful suggestions about constructing tests.
- Walvoord, Barbara and Virginia Johnson Anderson (1998). "Managing the Grading Process." Chap. 2 in Effective Grading: A Tool for Learning and Assessment. San Francisco: Jossey-Bass. This chapter provides a list of basic principles to make grading both more effective and more efficient.
- Davis, Barbara Gross (2009). Tools for Teaching. San Francisco: Jossey-Bass. Chapters on grading include:
- Quizzes, Tests, and Exams
- Allaying Students' Anxieties About Tests
- Grading Practices

Exam proctoring is a service provided through the Disabled Students' Program (DSP) for students who have DSP letters and whose accommodation plan stipulates that they need special arrangements for taking their examinations.

For guidelines on addressing possible cases of cheating or plagiarism, see the Teaching Guide section Academic Misconduct.

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