

Alternatives to Proctored Exams*

Your learning goals are an excellent place to start when considering alternative assessments: what do you hope students will be able to do by the end of your course, and in what ways can they demonstrate what they know?

[10 Alternatives to Exams](#) | [Special Advice for Open-Book Assessment in Quantitative Courses](#)

10 Alternatives to Exams

[This presentation](#) by Karen Harris of Rutgers' Teaching and Learning With Technology presents an excellent list of 10 suggested alternatives to exams that can be aligned with many different subjects and goals.

Below is a quick list of her suggestions; **[see the presentation](#)** for much more detail:

1. **Series of quizzes:** offer a low-stakes opportunity for students to demonstrate mastery of material, and give you ongoing information about student understanding. Frequent quizzing has also been shown to reinforce student understanding. Both Canvas and Sakai can randomize questions in quizzes, making cheating more difficult.
2. **Student-developed quiz questions:** writing quiz questions both builds and demonstrates students' understanding of the material. This assignment can be structured as a collaborative group activity.
3. **Open-book, take-home assessments:** many disciplines already have a tradition of take-home exams, typically involving more conceptual or applied questions that students cannot quickly look up in a textbook.
4. **Professional presentations or demonstrations:** students can create audiovisual presentations using a variety of media, powerpoint, prezi, and other tools.
5. **Annotated anthology or bibliography:** this project gives students choice in selecting works while assessing their higher-order abilities to evaluate sources, compare multiple perspectives, and provide rationales for their choices.
6. **Fact sheet:** students create a one-page fact sheet on a topic. Students must select relevant facts and explain them clearly and concisely.
7. **Peer- and self-review activity:** these allow for personal reflection on learning and peer-to-peer instruction, both of which reinforce and deepen understanding. Students do need instruction in the task of providing constructive feedback. Targeted rubrics laying out expectations for student work are very helpful.
8. **E-Portfolio:** a student-selected portfolio of work from the semester. Students compile their best or representative work from the semester, writing a critical introduction to the portfolio and a brief introduction to each piece.
9. **Non-Traditional Paper or Project:** creative assignments work best when they have some "real-world" relevance and offer students some choice in delivery format.
10. **Group Project:** group projects require students to demonstrate mastery of subject matter and develop their ability to communicate and work collaboratively. It is crucial to make your assessment criteria and grading scheme clear, and to ensure that there are clear, explicit expectations for each team member.

Special Advice for Open-Book Assessment in Quantitative Courses

STEM and other quantitative courses face a particular challenge in creating effective online exams, in part because it's so easy to cheat and in part because so many questions are computational. Joe Guadagni has compiled this advice from the Mathematics department:

- Ask more conceptual questions (e.g., "what is the next step in this problem?", "state the definition of...", "explain why this hypothesis in the theorem is necessary").
- Ask students to identify an error in a proof or computation (this is particularly effective since it can't be googled).
- Eliminate multiple-choice and fill-in questions in favor of show-all-work questions where students have to scan and upload their work.
- If using problems from a textbook, change not only the numbers but also the names (e.g., John to Alice) and the scenario (e.g., pulling a boat in to letting a kite string out). The reason for this is that popular textbooks will probably have many of their problems already solved online somewhere, for example, on Chegg.
- Use letters and variables in place of specific numbers.
- When randomizing the exam, don't just randomize numbers. Also randomize discrete parts of the problem. For instance, one version might have a problem like "maximize the volume of the box given its surface area" whereas another version might have "minimize the surface area of a box given its volume". (The numbers can even be the same for the two versions.)
- Avoid questions that consist of only simple computations. For example, instead of "calculate this integral", present students with some application in which they also have to set up a proper integral. "Write an integral expression that is equal to the probability that..." or "write a triple integral which is equal to the mass of the region" are good alternatives. There are online calculators that will not only solve many computational problems, but also give step by step solutions. Adding more words and applications to a problem makes it more difficult to cheat and also tests the real learning goal: do students know how to apply basic principles? (Ultimately, anyone can use a calculator, but only if you know what you want to calculate.)

*Excerpted from the Rutgers University School of Arts and Sciences Office of Undergraduate Education [Remote Exams and Assessments Webpage](#).