Canvas, Qualtrics, Webwork, Gradescope

Four models for administering take-home final exams

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Canvas

Can give an online exam (or survey) within Canvas itself. Canvas calls this a "quiz".

Qualtrics

Can give an online exam/survey in Qualtrics. Similar in many ways to a Canvas quiz.

Webwork

An open-source online homework platform designed for math. Can turn any homework assignment into a timed exam.

Gradescope

A grading platform for efficiently grading exams. Can have students print out exam, then upload pictures of their exam themselves.

Common features of all approaches

- Can import grades directly to the Canvas gradebook.
- Grading is either automatic or done efficiently by TAs.
- Can create a time limit.
- Can extend time limit for individual students.

Common issues

Exam security. (Online proctoring now available.)
Equity/accessibility. Do all students have computers?

Exams in Canvas: pros & cons

- Students are familiar with the interface.
- Integrates well with free online proctoring.
- Can write exam in LaTeX.
- Flexibility is limited. (Multiple-choice - good, enter a formula - bad)
- Automatic grading for multiple-choice and numerical answer questions.

Exams in Qualtrics: pros & cons

- Student and instructor interfaces are very well-designed.
- Automatic preview of what exam will look like on a smartphone.
- Integrates well with free online proctoring.
- Does not appear to support LaTeX.
- Flexibility is limited. (Multiple-choice - good, enter a formula - bad)
- Automatic grading for multiple-choice and numerical answer questions.

Exams in Webwork: pros & cons

- Students *may* be familiar with the interface.
- If students are familiar, answers can be functions, intervals, matrices, etc.; if not, best to limit to multiple-choice or integer answers.
- Creating exam questions requiring function answers can be time-consuming.
- For 12, 16ABC, 17ABC, 21ABCD, 22A (?), 22B: there exist problem banks of problems we've already used many times as homework problems.
- Can write exam in LaTeX.
- Free online proctoring available, but some details remain to be worked out.
- Automatic grading.

Exams in Gradescope: pros & cons

- Questions *not* automatically graded, but are efficient for TAs to grade.
- No restriction on exam questions.
- May require students to print exam.
- Requires students to have smartphone or scanner to upload completed exam to Gradescope.
- Free online proctoring available.

Free online proctoring: pros & cons

- Examity promises a live human proctor watching each test-taker throughout the exam.
- Proctors can implement special instructions (e.g., scratch paper must be destroyed after exam).
- Examity integrates with Canvas, but they claim to be able to proctor exams on paper or on other websites.
- Examity claims to have the capability to scale up to meet increased demand.
- Students *must* have a laptop/computer with a webcam. Smartphones are not sufficient.
- Exams are *not* simultaneous: students sign up for testing appointments during a 2-5 day period.
- May increase student stress level.
- Visit https://keepteaching.ucdavis.edu/test for more details.

Implementing exams in Canvas

1. In your Canvas course, click on "Quizzes", then the blue "+Quiz" button.
2. Set quiz options, then create questions.
3. To give time extensions, click on "Moderate This Quiz".
4. To grade short answer or essay questions, go to SpeedGrader.

Implementing exams in Qualtrics

1. See `https://keepteaching.ucdavis.edu/test` for details.

Implementing exams in Webwork

1. If you don't already have a Webwork course, ask `help@math`. Leng will create your course and import your roster.

2. If TAs need access, add them manually. Set their permission level to 'professor'.

3. From the Homework Sets Editor, Create a new set.

4. Set "Assignment type" to "gateway/quiz".

5. Set quiz options, then create questions.

6. For multiple-choice questions, use my template (available on my website).

7. For pre-written questions, go to Library Browser.

8. Give students login instructions (available at Webwork home page).

9. Consider making a practice exam so they can get used to the exam interface.

Implementing exams in Gradescope

1. Post the exam as a pdf in a Canvas "Assignment".
2. Set the open date; set the "Submission Type" to "on paper".
3. Write out instructions inside the Canvas Assignment AND at the top of the exam pdf.
4. Either give sufficient space to answer each question OR direct students to write each problem on a separate page.
5. If they will write answers on the exam itself, warn them that they cannot submit any additional pages.
6. Create assignment in Gradescope. Set due dates. Choose between fixed-length and variable-length.
7. Absolutely necessary to make a practice exam so that they can practice printing the exam, writing out answers, scanning or photographing their exam pages, and uploading.
8. Look through practice submissions for unclear scans.
9. SDC students can email scans directly to you.

Find these slides at www.math.ucdavis.edu/~rthomas.
Feel free to email me for more details or if questions come up.