

Exams in an online environment

Fri 8/14, 11:30 am – 1:00 pm, Facilitators: Samar ElHitti, Bruce Kan

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In this session we discuss techniques for effectively giving exams to your students including oral defense sessions and other strategies to promote academic integrity and critical thinking. Emphasis on Blackboard, Dropbox and WeBWork.

Math Department Instructor Resources

Visit the [Math Department Instructor Resources](#) OpenLab > Distance Learning for this handout, more supporting material and recorded sessions.

Perspective

Testing is imperative in assessing students' knowledge of material. Let's discuss some techniques for giving exams in an online environment. Try to come up with questions/problems that are not solvable through the myriad of websites and apps that are freely available to the students.

Strategies to address Issues of Plagiarism and Cheating:

1. Academic Integrity Policy and FAF
2. Module-based exams
3. Allow corrections and resubmission for partial credit
4. Ask for full solutions and a narrative explanation of the work
5. There are MANY websites (eg. Wolfram Alpha, Symbolab, Mathway) and phone apps (eg. Photomath, Symbolab, Microsoft Math Solver) that make cheating very easy
6. Get yourself familiar with "canned" answers from these automated problem solvers to catch cheaters
7. WeBWork -- multiple attempts or versions, timed exams, randomized questions
8. Oral defense

Oral Defense

- a. While grading, earmark 1-3 problems to discuss with the student.
- b. Have students schedule a 5-10 minute conference with you to discuss.

- c. You can choose between individual oral defense for every student for each exam, or some form of a randomization (say, each student goes through 2 oral defenses /semester for 4 exams)
- d. Oral defense in group version?
- e. To schedule an appointment, you can create a sign-up sheet on:
 - i. Doodle
 - ii. Google doc
 - iii. [Setmore](#)
 - iv. Sign-up sheet on Bb using Wikis: Course Management > Course Tools > Wikis -- [Step-by-step instructions](#).
 - v. Sign-up sheet on Bb using Groups (not trivial): Content Folder > Tools > Groups -- [Step-by-step](#) instructions.
- f. Make sure that the Oral Defense happens in a breakout room (private) or admit students into a Waiting Room (zoom/Webex) before breaking out one by one.
- g. Ask 3 Yes/No questions:
 - i. Did anyone help you with the exam?
 - ii. Did you discuss the exam with anyone else?
 - iii. Did you use resources aside from what was allowed on the exam? For example, google, websites, etc
- h. Explain that questions pertaining to 3 problems will be asked, that the questions were not about whether the work is correct or incorrect, but rather to explain the work the student did.
- i. Ask if they have a copy of their exam handy (they were already told to have that)
- j. Build in additional time between oral defense sessions as they may take longer than scheduled.
- k. Gauge their level of understanding based on the conversation.
- l. Grade should be a combination of the Work Submitted (WS) and Oral Defense (OD). For example, 70% to 30% (3-problems Oral Defense) respectively.
- m. Allow partial credit for Oral Defense: For example, 3-problem Oral Defense can be broken into: problem fully defended (10), problem partially defended (5), problem not defended (0).
- n. Exam grade formula to discourage cheating:

$$0.7 \times WS + (OD - 30(1-OD/30))$$
- o. This is an opportunity to connect one-on-one with students and establish a rapport
- p. Online classes can be very alienating to students so consider this as a way to connect











WeBWork:

Creating timed and randomized exams and quizzes:

- Create a new set in “HW Sets Editor.”
- Change the set into a “Gateway/Quiz” in “Edit Problems.”
- Set start/close time, duration, and number of attempts for the exam (see attached picture with notes). Note: using little less than 24 hours /1440 minutes (maybe 18 hours) may be ideal for students who may want to take the exam on 2 successive calendar days but be able to take them at different times of the day.
- Add problems using “Library Browser.”
- Assign it to the class

Youtube link to create Gateway/Quiz in WeBWork:

<https://www.youtube.com/watch?v=Lj8IldMHAAA>

General Information	
Opens	05/21/2020 at 12:00am  <small>Earliest time an exam can be started</small>
Closes	05/22/2020 at 11:59pm  <small>Latest time an exam can be started</small>
Answers Available	12/31/2020 at 11:59pm 
Visible to Students	Yes 
Hide Hints from Students	Yes 
Assignment type	gateway/quiz 
<i>Gateway parameters</i>	
Test Time Limit (min; 0=Close Date)	120 <small>Time limit once the exam starts</small>
Cap Test Time at Set Close Date?	No  <small>Yes = exam stops at close time, No = exam will finish when time limit is reached</small>
Number of Graded Submissions per Test (0=infty)	2 <small>Number of submissions possible for each attempted exam</small>
Time Interval for New Test Versions (min; 0=infty)	1440 <small># of minutes in between start times of new exams</small>
Number of Tests per Time Interval (0=infty)	1 <small># of different exams within the Time Interval</small>
Order Problems Randomly	No 
Number of Problems per Page (0=all)	0 <small>0 = Show all problems on a single page</small>
Show Scores on Finished Assignments?	Yes 
Show Problems on Finished Tests	No 

Setting the opening and closing time 48 hours apart, coupled with the Time Interval for New Tests at 24 hours, effectively means that 2 unique exams are possible within the 48 hours. The Number of Graded Submissions set at 2 means that each unique exam can be submitted twice.

OpenLab:

- Upload exam file to a blog post or a link to a document.
- Students upload written work to Blackboard or individual Dropbox folders.

Assignments in Blackboard (a recap):

Note: Bb has a [Tests](#) feature as an Assessment option that can be used to build exams within Bb. Bb uses a version of “insert formula” to type math formulas. This option might not be ideal if you are used to using Latex to type your exams, but, it is an option in Bb. Exams built this way need to be “deployed” to get released to students. Please visit the provided link for more information about Tests. Below we recap using Assignments to deliver exams in Bb.

Managing exams on Bb is the same as managing any other graded assignment. You can front load any assignment by restricting release and due dates, and then deliver, collect, assess and return assignments/exams to students like you would have done any other graded assignment. We review what is possible in Bb below:

1. Delivering:
 - a. You can create a Content Area item or use the Content item as the location to house your assignments/exams. You can also create folders in this location to organize the assignments: Exams, Quizzes etc.
 - b. To create a folder: Build Content > Content Folder
 - c. In the desired location > Assessment > Assignment
 - i. Link a document from your Dropbox via Mashups -- advantage: automatic changes
 - ii. Upload a Static PDF
 - d. You can also create a Test / Survey
 - e. Enable [Adaptive Release](#) for multiple versions of an exam or to deliver a make-up exam for select student
 - f. You can allow Multiple attempts (submissions) if you want students to say submit corrections after feedback
 - g. Send reminder for overdue/late submissions
2. Collecting:
 - a. Once your exam is created as above, your students can click on the assignment and then submit their work via Bb and receive email receipt -- disclaimer: students need training to successfully submit one (vs several) PDF (vs jpeg) file
 - b. You will find all submitted student work under Course Management > Grade Center > Needs Grading
3. Assessing

- a. Inline grading in Bb using Box -- allows annotation and Feedback to Learner as well as attaching files
 - b. Download assignments to Dropbox and use notes App (demo download, Dropbox next)
 - c. Download assignments to Dropbox and grade within Dropbox (Dropbox next)
4. Returning
- a. If you use Inline grading, the corrected assignment is automatically returned to the student along with any Feedback you wrote and their grade. Enter grade under Attempt then click Submit
 - b. Dropbox: upload to Bb for each user by going to Full Grade Center > Assignment / Student > Quick Comment > Text Editor then attach the file
 - c. Students can access their grades as well as Feedback to Learner and graded version of assignments/exams from My Grades

Dropbox for Assignments:

Delivering:

- a. Upload exam to whole class folder.
- b. Students upload written work to individual folders.

Collecting: Students upload to their individual folders.

Assessing:

- a. Comments can be used to provide feedback to students. In addition, the students can reply to the comments if they have any questions.
- b. Using a tablet (iPad), Adobe Acrobat Reader (AAR) can be linked to your Dropbox account. Through AAR's comment feature, you can annotate a file by drawing on top of it by using a stylus (Apple Pencil). This allows you to mark up work like a normal paper exam.
- c. PDF files can be downloaded into Notability and marked up using a stylus.

Returning:

- a. Dropbox or AAR: automatic after hitting save.
- b. Notability: export the marked up file into the student's individual Dropbox folder. Choose to overwrite the original file so you don't create a duplicate.

Collecting Written Work From Students

1. Student submissions must be a single PDF file, with multiple pages if necessary.
2. Blackboard
 - a. Once your exam is created as above, your students can click on the assignment and then submit their work via Bb and receive email receipt.
 - b. You will find all submitted student work under Course Management >

Grade Center > Needs Grading.

3. Dropbox
 - a. Students upload to individual folders.
 - b. Create a file request for each student. Students will use the link to upload their work to the class folder.

Giving Exams

1. "At-home": take-home test
2. "In-class" / During class time: while on video conference (keep in mind that you cannot mandate students to have their video on)
3. Multiple versions
4. Multiple attempts

Grading Exams

1. No matter which method you are using to deliver the exams, you should be collecting, grading, and returning written work on an individual basis.
2. Student work must be kept private from other students' views.
3. WeBWork:
 - a. it is up to you whether you want to count the WeBWork score or not.
 - b. WW exams should be supplemented by written work
4. Blackboard
 - a. Inline grading using Box
 - b. Download then us Notes App such as Notability / Adobe etc
5. Dropbox
 - a. Inline grading using Adobe Acrobat Reader