

TIPS FOR REMOTE INSTRUCTION

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This document assembles tips from instructors in the department that taught remotely in the spring semester and feedback from students. Please feel very welcome (encouraged) to share your thoughts about these tips or to share additional tips about remote instruction with me (Jon Steinsson). I will incorporate such suggestions into the document and share updated versions as the summer and fall progresses.

This document covers all topics except exams and academic integrity issues. Fred Finan is preparing something on those topics.

One thing to keep in mind is that the campus moved to a default P/NP grading scheme in the spring. Most students took their classes for a P/NP grade. This may have affected engagement and attendance. In the fall, we will be back to normal in terms of grading.

The Center for Teaching and Learning has a very useful [Instructional Resilience](#) page which covers a lot of topics related to remote instruction.

Basics:

The most common arrangement in the spring was for instructors to:

- Give synchronous lectures on Zoom (i.e., at the allotted time with a live audience)
- Record their lectures and post on bCourses
- Share their screen and use slides or a pen-enabled touch screen

Some instructors used two devices: one main device for slides / writing / talking and another with a gallery view of students and GSIs and possibly a chat window.

If your course has less than 300 students, you should use regular Zoom meetings for your lectures. If your course has more than 300 students, you can request to use Zoom webinars for your lectures. Please contact digitallearning@berkeley.edu to request Zoom webinars.

Student Engagement during Lecture:

The most common challenge reported by instructors was a struggle to maintain engagement during lecture. Many instructors reported a large drop off of attendance (1/3 attendance rather than 2/3). Some of this may have been due to P/NP grading in the spring. But some is undoubtedly due to the students having the option to watch the recorded lectures at other times. (Students in Econ 2 report watching close to 90% of lectures.)

Benjamin Faber: “The main downside/challenge that I sensed was on the receiving side from students: having online lectures that are recorded and uploaded to BCourses drastically decreases attendance for

any given live lecture. And I fear that students having lectures "on demand" could lead to problems of putting this off for too long (not following the course) or multi-tasking when watching the lecture."

The spring instructors mention several approaches aimed at counter this:

- Judicious use of Zoom's chat channel
- Mixing in "whiteboard" style lecturing with PPT style lecturing
- Moving to a "flipped classroom" approach
- Making an extra effort to pause for questions
- Adding a grade for participation / frequent quizzes

Using the Zoom Chat Channel during Lecture:

Several instructors indicated that using Zoom's chat channel during lecture was key to getting good student engagement during lectures. Doing this is tricky though because it is hard to both lecture and monitor the chat channel.

A solution to this problem is to ask the GSIs to help manage the chat channel during lecture. The GSIs can answer simple clarifying questions and interrupt the lecture to bring more substantial questions to the attention of the instructor.

Stefano DellaVigna: "I really liked asking Qs and having them respond on the chat because it offered more people the option to chime in, including the shier kids that would not raise their hand. Also, easier to record class participation (which can slightly bump your grade)."

Some attention may need to be paid to setting ground rules regarding chat etiquette.

Some classes (Data Science 8) seem to have set up a live Piazza channel during lecture monitored by a GSI as an alternative to Zoom chat.

Writing on the "Whiteboard" during Lecture

Another approach to increasing engagement was to mix in "whiteboard" style lecturing.

Marty Olney: "[I] started my pen-enabled laptop, started a ppt deck with ~30 blank slides, shared that screen, then wrote on the laptop. My sense from teach-net is that similar good results are possible with an ipad pro and notability."

Stefano: "I wrote notes / drew graphs on the PDF during lecture, and then I saved the "noted" PDF on bcourses, that is an improvement to the past for me when I could not screenshot my work on the board."

Student responses seem to indicate that mixing in "whiteboard" type lecturing increases engagement.

An alternative to using a touch screen is to use a "document camera" and write on old fashioned pieces of paper. These can then be scanned and shared with students after lecture.

Lecturing with an Actual Whiteboard through Zoom:

Haluk Ergin had success lecturing on an actual whiteboard through Zoom. He did this both for 103C and for 201B/207B. I heard from several students that this worked very well. Haluk's teaching evaluations also bear this out.

[Here](#) is a recording of one of Haluk's lectures.

He used his MacBook camera and microphone without any extra attachments. He used [this](#) whiteboard purchased on Amazon. Amazon also sells stick-on wall whiteboards that can easily be removed from the wall in question after the semester.

Move to a Flipped Classroom

Bryan Graham suggested a move towards a flipped classroom approach: "For example (I think) it is good to pre-record shorter lectures and then do live Q&A. So instead of two 90 minute lectures you might do two 60 minute lectures (not live) and a 60 minute Q&A section live each week."

This sentiment was echoed by Andres Rodriguez-Claire: "One possibility I have discussed with some people is to do at least some partial flipping of the lecture. I could record some segments and then have some questions at the end of that segment, along with a problem that they have to solve, or ask them to download some data and do something with it. Then I could meet with subgroups of students instead of lecturing. This is not trivial to do with 200 students, but perhaps doing a bit of this is feasible. I would probably need to reduce the amount of material I cover, and then break the class into groups of 10 and meet with the camera on and ask each one whether they followed the material, answered the questions, solved the problem, etc. And of course go over their questions. Clearly, however, this is not based on a successful experience but just on a hunch that something like this could work."

Brad DeLong said that he had been happier with posting PPT files with audio clips embedded rather than lecturing on Zoom. Brad is working on a more ambitious online course design for Econ 115 in the fall that uses a flipped classroom approach. Please reach out to Brad if you are interested in learning more / exchanging ideas about the flipped classroom approach

If you have been curious about the flipped classroom idea, this may be the semester to try it out.

Extra Effort to Pause for Questions

An alternative to using the Zoom chat channel to handle questions is to make an extra effort to pause for questions. Emmanuel Saez said that he had success with this. In particular he said:

- Stop after each slide (or short sequence) to ask for questions. Once students get used to it, they would typically ask questions (as they were doing in person in class)
- Ask yes/no questions to the full class that they can answer on the spot using the zoom buttons. You can see the tally in real time. This was particularly effective on normative questions in the PF class especially when a topic generated questions (e.g. "Do you think the wealth tax is good idea?"). Also useful to ask: did you understand this slide?

You may need to pause extra long to get students to participate. Feels unnatural but works.

Adding a Participation Grade

Giving weight to participation in grading may also help with engagement

Ben Faber: "One thing I found helpful to try to avoid these potential pitfalls was to have part of my grade (5%) accounted for by "participation". In my class that participation grade comes down to uploading 5-slide summaries of the papers that we read each week. At the beginning of the lecture, I then randomly pick a student to present (while students can opt out on being called on, but still have to upload slides). On Zoom that worked with a simple screen sharing switch for 5 minutes without a problem."

Emmanuel: "I did not do it but I would make attending class a requirement by putting some grade weight on how many of these yes/no questions you've answered (similar to the clicker strategy some teachers use)."

One option is to assign (easy) multiple choice quizzes each lecture. These could be posted before lecture and due 12 hours after lecture. Easy for anyone who actually listened to the lecture.

Other Ideas / Tips:

David Romer: "The students like it a lot if you log into zoom a few minutes early and stay a few minutes after class and "socialize" with the students who are on. A couple of times, we stayed on for extended periods after lecture—once to discuss grading, P/NP, exam procedures, etc., and once to discuss the economics of the pandemic. Those went well."

Yuriy Gorodnichenko: "One thing I should have done is to have more "chat rooms" with students (e.g., create a small group of students, give them a "project" based on the class material, and talk to them as a group). It may be hard to do in a really large class, but I think it could be done as a GSI/prof combo."

Benjamin Schoefer: "To stimulate discussion/interaction, I tried to enforce some discussion by saying: for next lecture, prepare some thoughts on topic X, and we'll devote 15min to this. This worked well"

Benjamin Schoefer: "Students strongly preferred I switch on my own video. I was surprised by that. I got multiple messages about this. I am sure this was unrelated to my deteriorating haircuts or my mother's bird painting on the wall in the background. This went to show that small things somehow mattered, that the lecture was given by a human being etc."

Setting Up and Recording Lectures:

We very strongly encourage instructors to record their lectures and post them on bCourses. Students may face unstable Wifi and they may be in a different time zone.

Zoom allows you to create a recurring meeting. Doing this cuts down on the complexity of managing Zoom links for the class. In a big class with lots of sections and office hours, you may want to create a sheet on BCourses where you post all the links to the various lectures / sections / office hours.

When setting up Zoom meetings there are several things to attend to:

- Mute participants upon entry
- Record the meeting automatically
- Enable join before host

You will also likely want to make your GSIs co-hosts during lectures.

Save to where?: Zoom provides you with the option of saving the recording to the cloud or to your device. ETS/DLS recommends saving to your device and then uploading to your Berkeley Drive. This allows you to delete the recording when you want as opposed to it being deleted after 30 days by default. They recommend saving to Drive as opposed to BCourses because BCourses was not designed to handle lots of large files (also the viewer is worse than the Google viewer) but they say that saving to BCourses will work. After you save to your Drive you can create a link that you share on BCourses. When you create that link, you can choose who can assess it. In particular, you can choose the UC Berkeley option, which means that people need to log in through CalNet to get access when they click on the link.

Interaction between Instructor and GSIs

The need for regular interaction between the instructor and GSIs is likely higher than normal. We recommend weekly interaction between instructors and GSIs either by email or in person.

GSIs/Readers/Tutors who do not have access to Zoom Pro, should email telecom@berkeley.edu and request Zoom Pro access, with a brief (one-sentence) description of their need for Zoom Pro.

Disability Students' Program

Accommodating DSP students will require special attention. See [campus DSP best practices](#).

Sections:

GSIs are generally quite opposed to having live synchronous sessions recorded. We recommend that this preference be respected.

The usual practice of having each GSI give two or three repetitions of the same section is probably not optimal when instruction is remote. The following is an alternative system suggested by Marty:

- Each week have one GSI record a single one-hour section. Make this available to all students in the class at the beginning of the week. This recording could be made asynchronously without live audience. In a class with several GSIs, this responsibility could rotate across GSIs.
- Use section times for small-group conversations, Q&A, hands-on helping students solve problems. Here each 30 student section could be broken into two 15 student groups that meets once a week. Each student would then have one hour of asynchronous lecture type section material and one hour of synchronous small-group interactive section. Students would be expected to already have watched the asynchronous section recording. So, these small group sessions would hopefully have a flipped classroom feel to them.

If you plan to go with this plan, please take care to discuss this with your GSIs early. They may not be expecting this.

Some GSIs used the Breakout Room feature on Zoom. Success varied quite substantially. The benefit of breakout rooms will be smaller if sections are broken into groups of 15 as described above.

Marty's advice on how to do breakout rooms well is that the key issues are:

- Content -- what are students being asked to do in breakout room, does task lend itself to conversation & collaboration
- Checking in -- GSI needs to jump from room to room and check in with each group, not use this as a chance to make coffee
- Reporting out -- students need to anticipate that they will be expected to report out once the b/o room closes

You may want to be more lenient than usual about which students attend which section due to time-zone issues that some students may face.

An idea from a GSI: "One strategy to make the section more engaging and increase attendance is to give grade incentives in the following way. Students divide into different groups during the whole semester. Then, they discuss the solutions to a problem during the section. It can be a question of a problem set or the section notes. Then, the GSI randomly chooses one of the groups to present the solution to the rest of the class. If the students do a good job, they obtain a 1, otherwise, a 0. This can be considered an additional problem set(s). Each group must present at least twice during the semester. This can be done in the first 20 minutes, and then, the rest of the section remains the same."

David Romer: "We tried to strike a balance in terms of whether students stuck with their own GSIs or just did whatever they wanted. The GSIs provided the zoom info about their section meetings and OH only to the students in their sections, but we told students they were free to email another GSI to ask for, say, OH info if they couldn't make it to their own GSI's OH. (Our head GSI says that it might be good to be freer with allowing students to attend different GSIs' OH in the fall.)"

Office Hours:

Instructors and GSIs generally held these on Zoom. In most cases, these were not recorded. Attendance varied.

Marty: "Held OH at the same times but were I doing this again, I'd have times that are further apart (morning, late afternoon or evening) to accommodate students in different time zones."

David Romer: "Attendance at our office hours was initially way down relative to the live versions, to the point where it was often painful (e.g., just a couple of students without a lot of questions). We started announcing that we'd dedicate the first hour to a specific topic (e.g., financial crises), which worked well."

You may want to consider using Piazza more intensively than in a usual semester to answer student questions and carry on a discussion with the class.

Problem Sets / Other Assignments:

David Romer: “We switched from p sets every other week to weekly to encourage students to keep up, which we think worked well.”

David Romer: “The move to online teaching eliminated some sources of connections between us and the students and, especially, among the students. One thing we’d started to do a few years ago was have a “problem set work session” before each problem set was due. It seemed to be a great way for shy kids to meet others in the class, form study groups, etc. (Our head GSI described them as “irreplaceable parts of the college experience.”) Assuming the fall starts online, finding ways for kids to make connections with one another seems very important.”

Ray Hawkins: “I’ve used Gradescope for problem sets for years and continue to do so in the online setting. Students create a pdf of their problem set and upload that pdf to Gradescope. Most, if not all, GSIs are familiar with Gradescope.”

Part of Brad’s plan is to have weekly quizzes about the readings.