

Colleagues,

### **Final suggestions on course content and interactions:**

Our new education model is being referred to as “virtual instruction” intentionally to distinguish it from true on-line instruction. Developing a course for effective on-line instruction is extremely challenging and a time intensive activity, typically requiring a year of full-time effort and another year to refine. This is what eCornell is good at managing, but not what we need to do now. Instead, accept that we are doing the best we can within the time and technology limits.



Most of us, at one time or another, have given lectures remotely – taunting students from a conference on the beaches of Hawaii in February. These are mostly successful, primarily because everyone knows that they are **temporary**. Life returns to normal the next week. This time is different.

### **Key challenges:**

- **Maintaining intellectual and emotional connections:** Anecdotal evidence from our peers suggests that student involvement will be strong when classes first resume, but will fade very quickly if connections are not made. It is absolutely critical that you work to maintain these connections at the student to faculty, student to student, and student to Cornell level. Content is easy... this will be hard.
- **Managing students on the edge:** These include students limited by time zones, limited computer or internet access, and study environments. Intentionally designing

materials to address these limitations up front will reduce your time needed to mitigate them individually.

**My recommendations:**

- **Asynchronous delivery of lectures unless you already have a robust and effective active learning strategy in place:**
  - **Panopto:** Panopto is designed for development of lectures with a wide range of capture capabilities. You can include low-tech to high-tech elements to encourage and monitor viewing. These can range from quizzes in Canvas (enhanced assessments) to simple informational tidbits that can be queried during class time (my dog is a German Shepherd).
  - **Chunk lectures:** You may want to go with 50 or 75 minute lectures, but think out of the box and go for times appropriate to the topics. If lectures get long, specifically encourage breaks at appropriate points. Students do not need to listen to it all at once.
- **Synchronous delivery of lectures only with active learning breaks and student involvement:**
  - **Zoom:** Zoom is likely the best option. But it will be critical to use multiple engagements during the lecture (iClicker's, break-out rooms, breaks for discussion) if you want to keep students engaged. Otherwise, you might as well just record lectures if students will ultimately choose to listen to you at 1.5x speed anyway.
- **Use class time for active engagement:**
  - Initially, you may only be able to do little more than expound on critical components of the lecture and ask pointed questions. But you can easily expand to include short assignments done in break-out rooms with follow up curating of student answers.
  - Have your TA act as a moderator during sessions to monitor chat and student hands. Chat, in particular, can be extremely powerful for anonymous questions that are curated and organized for answers.
  - Consider a parallel time (maybe 6 hours time shifted) for a second session to catch students unable to meet at the normal time.
  - Even if not all your students are engaged, those that do participate will definitely remain connected to one another.

- **Monitor student engagement:**

- Use some intentional strategy to monitor the student participation in each component of the course. There are analytics in Canvas around viewing of materials. Simple clicker quizzes will show timing of student involvement.
- While I would normally discourage “attendance” based components to grading, I think it can be very effectively used in these circumstances to encourage engagement. Just be sensitive to students who may not be able to attend at lecture time (on-line quiz alternatives for instance).

- **Humanize yourself and your students**

- Devote some of the very limited interaction time to humanize yourself, and to acknowledge the challenges some of your students are facing. While it doesn't really fall within “engineering content,” students often express a desire to understand and acknowledge you as a person.

Attached is a longer document from Kathy Dimiduk (MTEI) on other options and ideas. This is also on the MTEI webpage <https://www.engineering.cornell.edu/MTEI/information-teaching-remotely>.

Stay safe, healthy and sane!  
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