You Can Teach Online!
Designing effective and engaging online courses
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Online teaching may be a new modality of work for CSHPS members. The pivot to remote teaching in the spring was abrupt and stressful for many of us; at times it felt like we were building the plane while flying it. This summer I took a week-long workshop called SOIREE, which stands for Summer Online Instructional Readiness for Educational Excellence, to improve my online teaching practices at MSU. I learned how to transform my Science and the Environment HPS course to be fully online. Then, through my role as a learning designer at the Hub for Innovation in Learning and Technology, I co-facilitated that same workshop a few times to support faculty colleagues from all across the campus in their transition to online teaching. All told, MSU put a thousand educators through this week-long training to prepare for a fall term that is now almost entirely online.

While the workshop was specific to MSU, our D2L learning management system, and our specific technologies and resources, we learned good pedagogical practices that apply to all online courses at any institution. Here are the takeaways for making your online courses effective and engaging, with some examples from trying to apply them in HPS/STS contexts.

1. Care
In addition to the stresses of both teaching and learning in new online ways, the pandemic has further revealed and contributed to social, health, financial, and racial inequalities. You need to center care, kindness, and patience in your teaching: for yourself as you learn a new way of being an educator, and for your students who are facing significant stresses you may know nothing about. When making choices about attendance requirements, late penalties, and the suggestions below, default to care. For example, some students in rural areas had significant connectivity issues that reduced their ability to always access our online course or upload assignments on time. They told me it was a big relief to be reassured that they wouldn’t be penalized for those tech issues.

2. Connection
Maintaining a connection with your students is key for online teaching, whether you are
teaching live or recording content. Do things that contribute to your students’ interactions with you, with each other, and with your course material. For instructor-student interactions, for example, virtual office hours or asking students to type a 3-word check-in are ways to improve connection. Discussion boards or short video introductions to the other students are ways to help students connect to each other. Building engaging assignments and making room for creativity are other ways to enhance connection. There are plenty of creative options that work well in HPS courses; ones that have worked for me are sketching and journaling assignments to get students reflecting about their relationship to nature, to artistic responses to scientific controversies that highlight the experiences of different stakeholder groups.

3. Design Backwards from Learning Objectives Shifting a course online is a good opportunity to think about how the components of your class help your students move towards its learning objectives. This helps you understand which parts of your class are essential and which can be left out. Even if you are starting with a full syllabus of readings and activities, start over with a clean slate and set goals for your students’ learning. Some of your prior content will fit well with those learning objectives, and some might need to be replaced or scaled back. One of the objectives for my summer course was “Analyze and explain the impacts of conservation initiative” but I switched the format from an essay to a recorded presentation. This still supported their progress towards the objective but it was a better fit for an online course that already had more writing than usual because of regular discussion board assignments.

4. Use Synchronous Time Wisely If your online course has a synchronous component, try not to fill it with lecturing. Instead, you can record and post your lectures for students to watch beforehand. This way you can use the live class time for discussions, answering questions, reinforcing unclear areas, and other more valuable activities than content delivery. (This approach, known as the “flipped classroom,” is already well-known in the humanities).

5. Find Digital Tools that Work for You... Many of the professors taking the workshop wanted digital solutions to replace in-person class components. One resource we shared with them was the “magic table” created by my colleague in Lyman Briggs College, Rachel Barnard. This 1:1 correspondence worked well to show how just about everything in an in-person course can happen online, just in a different form. Your institution may not have access to all of these tools, but you don’t need these specific ones to build an effective online course. Think about the functions that your course needs and find a combination of tools that replicates those functions. I really like structuring my class’ small group discussions in zoom breakout rooms, with each group getting a different prompt and writing a paragraph within Google Docs. Afterwards, one member reports on their results to the whole class and I briefly synthesize their responses and make any missing connections to the course content.

6....but Keep It Simple The downside to finding new tools to replace in-person components of your class is that it’s easy to be overwhelmed. Your students are likely overwhelmed as well, especially if every course requires a different set of tools. Only introduce a few tools that you understand, and build in time for your students to try out new tools before they need to use them for coursework.

7. Communicate We know that clear communication is helpful in teaching. For online teaching, it is essential. Make sure your students know how to access the learning management system and the course content, how and when to submit assignments, and how to ask questions. To ease the email burden, set up a discussion board (mine is called Course Structure and Assignment Questions) and answer all general inquiries there. This way other students will (in theory)
How is online structure different from face-to-face?

<table>
<thead>
<tr>
<th>Face-to-face</th>
<th>Online</th>
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<tbody>
<tr>
<td>1st day of class: intro you and the course</td>
<td>D2L pages (&quot;files&quot;) describing policies, norms for how often to log in to D2L, etc. with text and short &quot;tour&quot; videos</td>
</tr>
<tr>
<td>Student turns to neighbor to ask question</td>
<td>Student use the chat (if synchronous sessions), discussion board, email, and/or text a friend</td>
</tr>
<tr>
<td>Office hours: in your office</td>
<td>In a Zoom meeting room possibly with a &quot;waiting room&quot;</td>
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<tr>
<td>1:1 meetings about projects</td>
<td>1:1 Zoom meetings about a project</td>
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<tr>
<td>Group worksheet</td>
<td>Collaborative e-tools (Office365, Google Suite, etc.)</td>
</tr>
<tr>
<td>Class meeting: pre-reading --&gt; small group discussion --&gt; share out --&gt; post-reflection</td>
<td>Social reading in perusall.com --&gt; Small group discussion notes on google doc --&gt; individual, written reflection submitted to D2L</td>
</tr>
<tr>
<td>Class meeting: iClickers for classroom polling</td>
<td>iClicker REEF (if sync sessions); or videos + short D2L quizzes (if async session)</td>
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"Magic Table" created by Rachel Barnard, reproduced with permission.

see the questions their peers have asked; email can be saved for questions related to individual student issues. Make sure your students can give you feedback about elements of your course that are unclear so that you can make adjustments.

8. Resist Panoptic Surveillance

Online courses can lead to fears of students cheating or not paying attention. This makes some instructors or colleges to go all-in on surveillance: “always on” camera rules, invasive virtual proctoring, and even eyeball tracking software. We don’t want this in our working life, so why inflict it on students? Perceiving your students as about-to-be-cheaters sets up an adversarial relationship; instead, use more formative assessments and fewer high-stakes exams. Design open-book and collaborative assignments, and have students reflect on their process and teamwork. HPS classes use essay assignments; you can build steps for submitting outlines and drafts and for written work, so that students can iterate based on your feedback and you can guide students towards stronger essays.

9. Ask for Help

When things get overwhelming, don’t go at it alone. One IT colleague told me about the “10-minute rule”: don’t spend more than 10 minutes trying to fix a technical problem on your own. You can start by asking your close colleagues for help; they may have already solved that problem themselves. Next, reach out to your institution’s IT experts, whether through a helpline, chat, or FAQs; they know the systems you’ll be using and solutions to the issues instructors encounter. My weakness in using our D2L system has always been the gradebook, and I have saved myself hours of finicky work with a few short phone calls to the IT helpline.

Some of these suggestions will work best for your next online course, while others can be implemented right away with a little preparation. I hope this set of best pedagogical practices can reduce your anxiety, support your care for yourself and your students, and improve your future courses, both online and in-person.

You’ve got this!