Remote teaching: a practical guide with tools, tips, and techniques

REMOTE TEACHING: A PRACTICAL GUIDE WITH TOOLS, TIPS, AND TECHNIQUES

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CONTENTS

QUICK START OVERVIEW AND RESOURCE DOCUMENTS

The Quick Start Overview below can be used as a reference or to dive right in. In the main chapters of this book, we explain each of these steps in greater depth. We anticipate updates to this guide as the situation evolves. There are also video tutorials for how to do move to remote teaching throughout this ebook.

A summary of the key updates will appear here as they arrive.

Other resource documents that we include as part of this overall guide:

- Brightspace course template
- Syllabus template
- Online conversation skills
- Tip sheet for students for online learning
- Worksheet: online learning or work plan
- Questionnaires to understand students' experiences and solicit feedback, before, during, and after the course; Google Drive forms

These documents can be adapted to your context if you choose to do so. They were designed as Open Education Resources. A French translation is coming soon!

Moving to remote courses – Quick start overview

Suggestions (see guide for explanations, options)	Method/Tool
1 Identify the **essential learning outcomes** or topics. At the end of the course, what MUST learners know, be able to do, and value? Cut the rest. Break LOs into modules/sections.	PDF Post in Brightspace
2 How will you **share content**? For example: curate or record short video lectures (2 – 15 min) or post text with main content. Use videoconference time to address more complex ideas and work through problems. For synchronous[a] options, also record the session to make available asynchronously[a].	Asynchronous[a]: record videos, post on YouTube and link through Brightspace Synchronous[a]: Adobe Connect/Teams/Zoom
3 **Offer practice with feedback** These can include: optional practice sets with answers (async.), group work on problem sets during videoconference (sync.), using a response system.	Async: PDFs with answers Brightspace quizzes Sync.: Adobe Connect/Teams/Zoom & LectureTools/Menti
4 Identify methods for **assessment** that focus on learning. Consider weekly interactive quizzes (async.), collaborative, open-book exams.	Brightspace quizzes Exams administered as Brightspace "assignments"
5 **Identify methods for communicating** with students. Tell students what to expect, e.g., that you respond once daily to email and have office hours on Mondays 1 – 2 pm.	Brightspace announcements, Email, Teams/Zoom
6 **Teaching assistants** can run DGDs[b], forums, make videos, or answer questions in the chat during classes.	Brightspace forum, Adobe Connect/Teams/Zoom, DGDs, Email
7 **Support students** by being flexible and providing resources. Equity and wellness are major issues both for online learning and because of the pandemic. Students have not chosen to learn this way and may not have the needed tools or skills.	Ask students, consider alternatives, provide resources

- [a]Synchronous: everyone present at the same time, e.g., videoconference; asynchronous: students/professors contribute at their own pace and time (e.g., email, discussion forum); can still have deadlines. [B] DGD = Discussion group | Groupe de discussion (i.e., tutorials).
- Do what you can: it doesn't need to be perfect (is there such thing?) but it can still be a good learning experience, given this need for remote teaching.
- The Teaching and Learning Support Service (TLSS) provides support for many of the tools identified, especially Brightspace.
- There are excellent, detailed resources on creating remote courses. This guide is simply meant to be a quick way to get started.
- Suggestions welcomed! Icons from Freepik and Eucalyp from Flaticon.

Suggested weekly course sequence

Asynchronous

Learning outcomes (LOs)

- Written in the syllabus (could be topics)
- Break into modules/sections
- Each part of the course (e.g., videos, quizzes, classes) is connected with one of these LOs

Short videos

- 2 – 15 min
- Topics or subtopics of main lectures
- Post online
- Replace lectures

Quizzes

- Create in Brightspace
- Relate to simpler video concepts
- Scheduled regularly (e.g., weekly deadlines)

Problem sets

- Post questions and answers in Brightspace (PDFs)
- Optional extra practice

Synchronous

Classes via videoconference

- Twice weekly; post notes on Brightspace ahead of time
- Students answer via LectureTools/Menti, Professor guides
- TA monitors chat (answers questions)
- Record and post on Brightspace

DGDs[b]

- Weekly, 1 hr of problem-solving plus 20 min Q&A
- Focus on areas of student difficulty OR specific themes OR basics/challenge questions

Midterm and final exam

- Consider alternative assessments (e.g., group, open-book)
- Traditional exam format may be available (e.g., proctor software or in-person)

Communication

- Announcements via Brightspace
- Email (asynchronous)
- Office hours (weekly, synchronous)

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1.

WELCOME AND GUIDING PRINCIPLES

Welcome!

This resource is designed to help you convert your face-to-face class to a remote course as simply as possible. We walk you through the process, at each step giving a suggestion for a specific tool/technology—the uOttawa-supported one and our preferred tool if it is different. We also give an example and sources of additional information. We also created a **template of a course in Brightspace**, **syllabus**, and other resources that you can modify to suit your own course, if desired. These resources are available in the section called Quick start overview and resource documents.

We have all shared the experience of an emergency translation of in-person teaching to remote teaching in spring, 2020. Each of us improvised a distinct set of tools and approaches that worked in the short term and enabled courses to be concluded in a reasonable way.

The purpose of this guide is to support efforts to *plan* courses to be offered using remote instruction, identifying a set of tools with supporting examples that can be customized for courses. We are inspired by courses from Faculties of Science—the University of Ottawa's Faculty in particular—but elements of this work should apply readily to many courses in other environments.

We also recognize that this emergency involves profound changes to every part of the university experience. Many of us must work under challenging circumstances at home to deliver something that we may have never seen before, let alone created. To be blunt, this transition is stressful.

This guide is intended to take some of the sting out of the process of having to work under such strange and challenging conditions.

We value feedback. In preparing this book, we dove into materials, tools, techniques, and research around best practices for teaching. We thought about ways to make the process as approachable as possible. We have surely missed things that would make this guide more accessible to colleagues and the process of planning remote teaching less stressful.

To this end, please contact us with questions, suggestions, and concerns. We check this form weekly and will continue to update this guide as the situation evolves.

Simple and familiar are ideal

We recommend **keeping things simple** and using tools and methods that you are already **familia**r with, to the extent possible. There are so many options that if the ones provided don't seem like a good fit, please feel free to make changes or reach out (see the Chapter on "Where to find help and advice").

The fact is that many of us have not seen examples of a "good" remote learning course. In a non-exclusive way, we will provide a number of examples of potentially successful courses and describe the strategy, approaches, and tools that were used to create those examples of success.

Consider how the pandemic may be affecting students

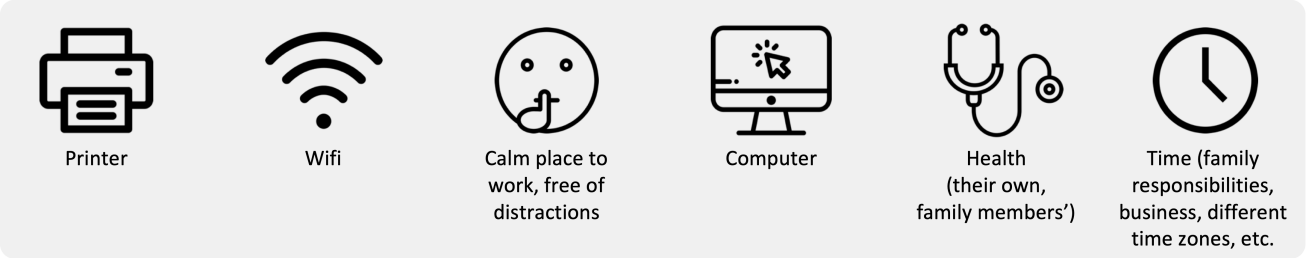
When designing a course for remote instruction, flexibility is important. In this pandemic situation, students have not CHOSEN to take a remote course. They are being required to take courses remotely and many have not even have encountered remote learning or an online course before.

> **70% of students are concerned about the negative impact of remote teaching**, according to a recent survey conducted by the uOttawa Science Students' Association (n = 149).

Accessibility matters. Students may have limited access to essential materials for an online course or even to an environment that is suitable for concentration and learning. For example, students may: (i) have no printer, (ii) have poor or no wifi, (iii) not have a calm place to work, (iv) not have a suitable device.

It is vital to remember that we will be working through a global pandemic. Students, their family members, and/or their friends may experience risky health challenges related to COVID-19 as well as those that otherwise arise. Because of pandemic-related travel limitations, some students will be working in a different time zone. In addition to challenges that such time zone differences create that

relate to delivery of live (synchronous) content, students also have other obligations associated with their presence in those remote locations (e.g. caring for family members or helping with a family business).



A little about remote instruction

This fall transition is an example of **remote teaching** and not (for most of us) a formal **online course**. There's a full explanation of the differences here. Essentially, a remote course is a normally face-to-face course that is given a distance during time of an emergency (in this instance, the COVID-19 pandemic) to ensure teaching continuity. A remotely taught course is a digital translation of a course that was originally intended to be given in person.

During this pandemic period, neither students nor instructors have any choice about using remote learning/teaching approaches. Considerations and flexibility should be given to the fact that neither is optimally equipped for remote learning/ teaching. In contrast, online courses are designed for their medium,. Their design usually involves the support of a team of online education experts, including instructional designers, graphic designers, and a production team. In a way, the distinction between remote teaching and a truly online course is one of degree, but the way content is delivered between the two approaches and indeed the content itself can vary significantly.

Up next

Through each of the chapters that follow, we walk you through the steps of converting to a remote courses. Many course variations are possible and we encourage you to adapt these suggestions to best support the students in your course. Please feel free to connect with suggestions, concerns, or questions.

2.

GETTING STARTED

To begin, gather information about the students in your course. Here are two main areas to consider before getting started with the design.

Who are the students?

Start by identifying what the students:

- Should already know (e.g., prior course knowledge)
- Have in terms of access to technological tools (e.g., do they have earphones, do they have a smartphone with a camera that works?), ideally by asking them
- Have experience with a university course (e.g., first year versus fourth year students), ideally by asking them

These will become considerations as you make decisions in the course. For most students, the answers to these questions will likely be as expected, but sometimes surprises arise. These include the students who would come and speak with you on the first day and ask you about particular accommodations. Remember that they cannot do this as easily under these new circumstances. Their voices may effectively be silenced by circumstances. Asking some questions at the outset will help you avoid pitfalls that could exclude some students, who may not communicate with you if there is a concern or a gap.

How could students help?

Students can be involved in many ways. For example:

1. Through questionnaires you can ask for their opinions and experiences before, during, and at the end of a course. There are examples here of Google Drive Forms that can be adapted; the examples provided can be copied and

modified for your own purpose.
2. Students can help create course content (e.g., videos, problem-sets) as teacher assistants, volunteers, or in other roles.

To go deeper

Reflecting on your teaching

eCampusOntario developed a program called Ontario Extend, a **professional learning program** that "aims to empower educators to explore a range of emerging technologies and pedagogical practices for effective online and technology-enabled teaching and learning."

Analyzing the learning environment

TLSS created tools to design a blended course that works well for a remote course, too, including how to further analyze the learning environment.

Student involvement

Students can be involved in a number of ways, including being consulted, as collaborators, and co-creators.

Up next

In the next chapters, we will address how:

- To identify the course's essential learning outcomes (or topics)
- Content will be shared with students
- Assessment will work (e.g., practice, feedback, assignments, exams)
- Communication will work in the course (professor-student, student-student)
- Students can become effective at learning in this format
- To address wellness (e.g., mental and physical health)
- Teaching assistants can contribute

- To address equity during this remote teaching/learning experience

3.

IDENTIFYING THE ESSENTIAL LEARNING OUTCOMES

Identify the essential learning outcomes (LOs)

The course's intended learning outcomes and your intentions for the course (e.g., student experience) should guide each of the subsequent decisions you make, such as technology.

Identify the essential learning outcomes (LOs) for your course; course topics can be used here if you don't have learning outcomes ready yet. Often, many less important LOs or topics need to be removed due to space and time limitations in the course.

Examples of learning outcomes:

- Justify the mechanism of the reactions in the course using experimental evidence to compare possible reaction pathways
- Demonstrate how evolutionary and ecological processes interact
- Determine whether a given drug candidate is expected to be orally bioavailable; justify your decision
- Use the definition of the derivative to find the derivative of a function and check your answer using the quotient rule

Divide the learning outcomes into modules

Dividing the LOs into modules, sections, or chapters will break up the course into manageable chunks. Students will need opportunities to hear/see the important information (e.g., short lectures), practice, and receive feedback (e.g., problem sets with answer keys, quizzes, assignments, exams).

To go deeper

If you choose to transform topics into LOs, here is a guide from the University of Waterloo that can help.

Up next

In the next chapter, you can use the learning outcomes to decide which aspects need to be achieved synchronously and asynchronously. We will provide specific suggestions as to which tools and strategies to use when sharing content.

4.

CREATING AND SHARING CONTENT

With this chapter, you can make decisions about **how to share the information** that students will need. We then describe **setups** that are needed to make these suggestions work, such as curating and creating content.

Ideally, each course decision will be aligned with:

- The intended learning outcomes
- Your intentions for the course, such as the learning experience you hope students will have
- Abilities: both yours and the students'

Suggested weekly overview

The following graphic depicts how the various elements can play out in a course. Please feel free to adapt and share with students; the PPT file can be found in "Where to find help and advice".

Suggested weekly course sequence

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DGDs[b]
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- Consider alternative assessments (e.g., group, open-book)
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Communication
- Announcements via Brightspace
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- [a]Synchronous: everyone present at the same time, e.g., videoconference; asynchronous: students/professors contribute at their own pace and time (e.g., email, discussion forum); can still have deadlines. [B] DGD = Discussion group | Groupe de discussion (i.e., tutorials).
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- The Teaching and Learning Support Service (TLSS) provides support for many of the tools identified, especially Brightspace.
- Suggestions welcomed!

Building the course in Brightspace

The TLSS offers guides and support for creating each aspect of the course in Brightspace. You could also use the **Brightspace template** that we created—including the template of a **syllabus**—and adapting it to your own course's needs. These files can be found in "Where to find help and advice".

In the sections below, we describe how to make specific decisions about sharing content, plus ways to curate and create the content you want for your course, such as how to make videos.

Deciding how to share content

Synchronous versus asynchronous

Ideally, the remote course will have a mixture of synchronous and asynchronous learning options.

A purely synchronous remote course would involve live streaming lectures without recording them. Such as format is hard on learners, teaching assistants (TAs), and professors for many reasons:

1. **Technology limits access**: students with poor/no wifi struggle to hear, see, and participate. Dropped connections mean missed information. Working in different time zones make attendance difficult.
2. **Many students will have a poor experience** if they can't connect efficiently. Long, live lectures are difficult to engage in. These issues can lead to poor student experiences and they will understandably complain. These issues could lead to problems of recruitment and retention down the road if courses gain bad reputations.
3. **A solely synchronous course creates obstacles to learning**. Students' cognitive loads can get too high with too many things to keep track of. Problems with equity can grow larger. The online format imposes a fixed pace onto students, who may find it too fast or too slow.

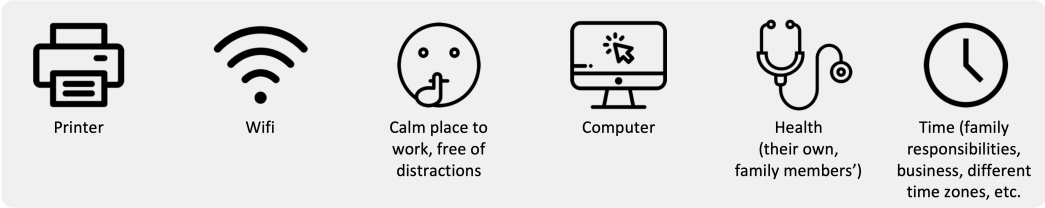


Figure 1. Students may not have access to elements needed to succeed in the course

Often, explaining basic concepts works well asynchronously (e.g., recorded videos).

Synchronous time (e.g., videoconference) can be used for students to practice in groups and receive immediate feedback. Videoconferences can be very useful in courses, but require high bandwidth and immediacy.

Considering bandwidth and immediacy

Bandwidth limitations will cause students (or you!) to lose access to the livestream intermittently or for a long time. Bandwidth problems are likely to arise for any number of reasons. Students (or you) will be working from locations that may be subject to wireless interference, remote, or they may not have access to high speed connections. Bandwidth problems can interfere with every part of synchronous teaching, like posing questions for students to discuss in a breakout room (like in Zoom). Students with bandwidth problems may need extra time to download materials before they can use them.

Challenges with immediacy can create or exacerbate equity issues. Immediacy refers to how quickly we expect responses from each other when interacting. For example, when present in person, we anticipate an immediate response when asking someone else a direct question (high immediacy); when we email, a delay is normal (low immediacy).

Immediacy requirements can present challenges. If students must work remotely, they may be working in an environment that is not particularly effective for studying at all times, or one in which there are many distractions or obligations; child care is one example. These issues apply both to students and professors.

We recommend against extensive use of high immediacy/synchronous approaches. Ideally, students will have choices in when to attend to course obligations so that they can also balance their current life obligations.

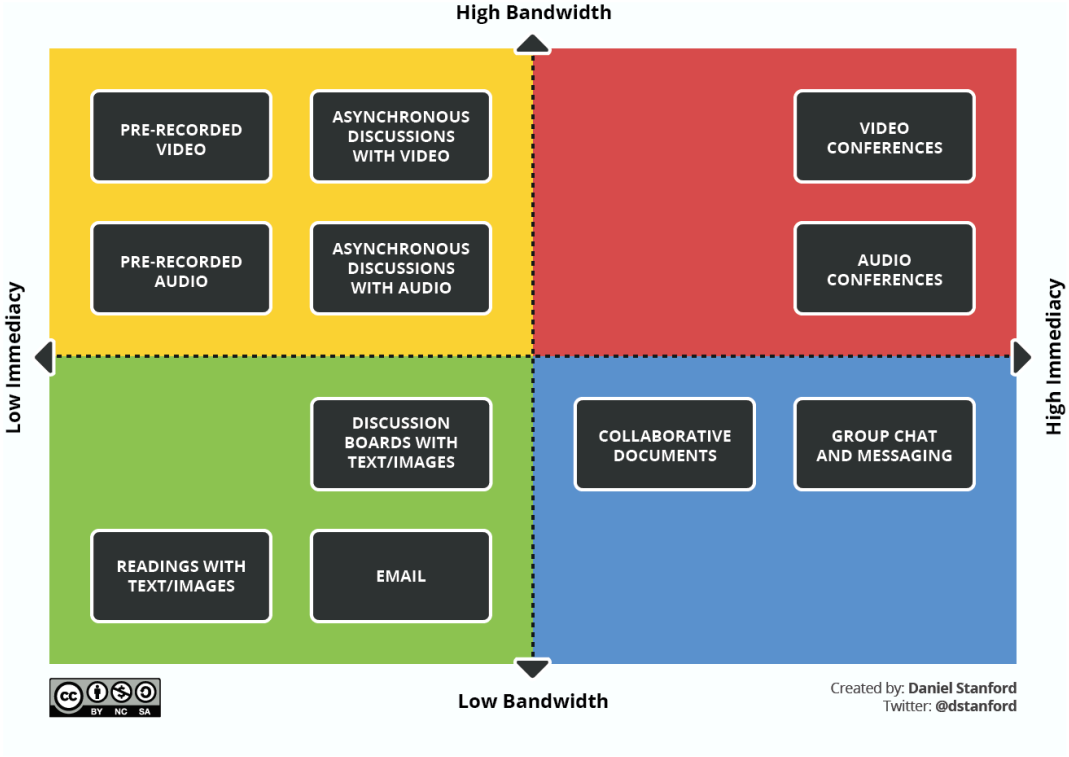


Figure 2. Examples of high/low bandwidth and immediacy teaching options.

We created a series of examples that suggest ways to find reasonable tradeoffs between immediacy and bandwidth. Our intent here is to take some of the pressure off both students, TAs, and professors.

Examples

Each example that follows is a learning outcome followed by teaching decisions that reflect a specific compromise between high and low immediacy, and between high and low bandwidth requirements.

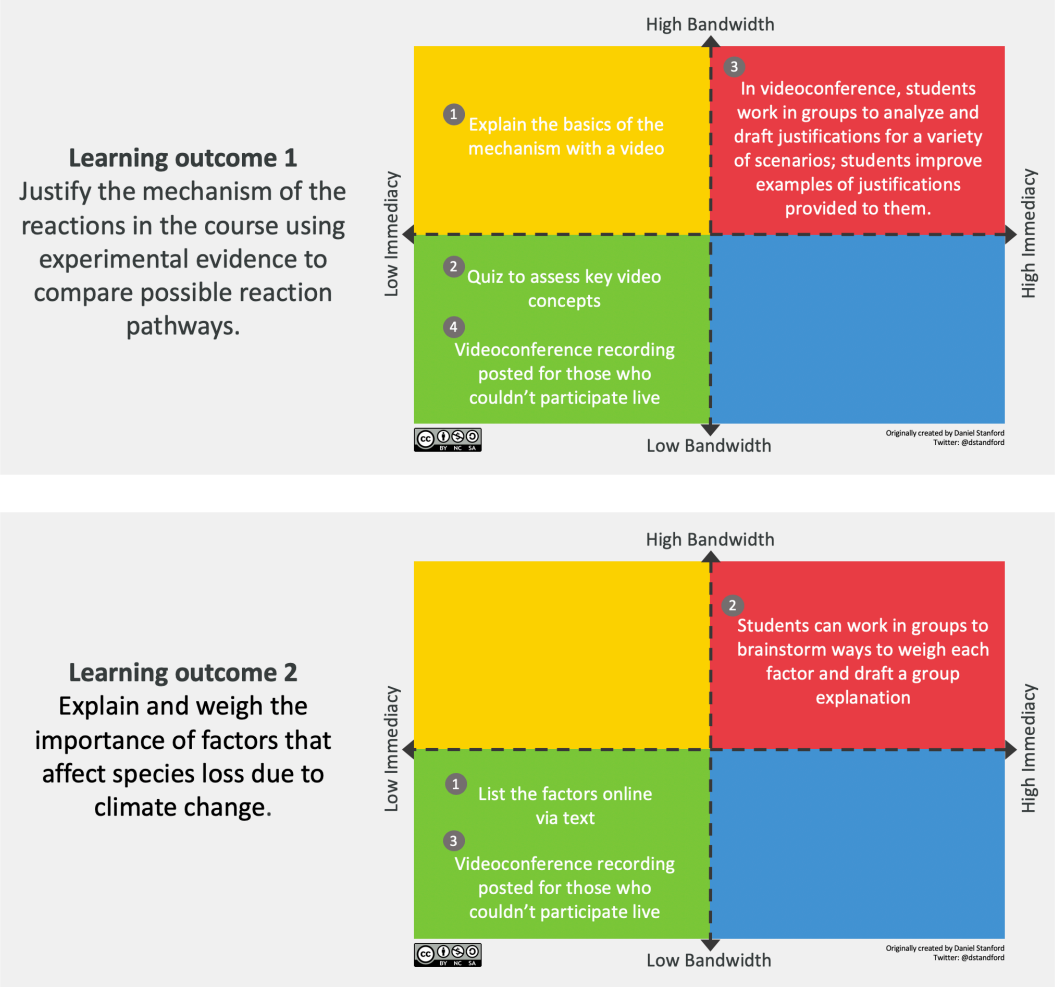


Figure 3. Examples of activities designed to help students achieve the learning outcomes indicates, arranged according to bandwidth and immediacy requirements.

Time on task

Emphasize time on task over "contact hours". Design opportunities to engage deeply with learning in authentic contexts, rather than superficial approaches. Here is a useful calculator for estimating course time. The University of Windsor's Office of Open Learning recommends that students should spend 6 – 9 hours per week on learning activities in a course, including lectures, watching videos, readings, working on assignments, independent research etc.

Curating and creating content

Curate before creating

First, gather all the material you already have available to re-use if possible. Curating will save you time! There are many sources of content:

1. Seek alternatives to copyrighted materials, including public domain, open access, creative commons, links, and insubstantial use.

A main source of resources are **Open Education Resources** (OERs), which are "teaching, learning, and research resources in any medium—digital or otherwise—that reside in the **public domain** or have been released under an **open license** that permits **no-cost access, use, adaptation, and redistribution** by others with no low limited restrictions." –UNESCO Some sources of OERs include:

- Ask librarians. uOttawa maintains a list of OER repositories
- eCampusOntario has an Open Library plus other teaching/learning resources
- Discipline-specific repositories exist, including for laboratories (e.g., ChemEdCanada.com)
- Video sources such as Khan Academy
- Image sources, such as Pixabay, Flickr, and Flaticon

2. Copyrighted materials (video, text) may be desired sources. For these items, you could

- Send students directly to the source by sharing a link
- Request or require that students purchase the material (e.g., course textbook)
- Explore exceptions to copyright through uOttawa's Copyright Office

Writing text or preparing slides

For online courses, full sentences are preferable to bullet points. Bullets on slides can be explained in person but the meaning can often be unclear when seen out of context. That said, be a brief as possible an avoid being redundant–repeating key points is important face-to-face as students may have missed the message or not realized the importance. Online, you can emphasize the key messages and they can always return.

Creating videos

As needed, create new material. There are great explanations for creating instructional videos (e.g., Columbia, Edutopia, TechSmith). We also provide a series of examples in the Appendix. In short, videos should ideally:

- Be short (2 – 15 minutes, like TED talks). Ideally, videos will be centred on a single topic or sub-topic. Long video recordings (i.e., > 20 min) are difficult for many reasons, as they make it hard to: keep students engaged for that amount of time, find information later, update or clarify content (if there's a mistake in an 80 minute video, it's a lot harder to fix than a mistake in a 3-minute video), or point students to specific sections of relevance.
- Identify a key message (e.g., learning outcome, topic, or sub-topic in the course).
- Have accompanying visuals that can be annotated (e.g., slides). Share these with students so that they can annotate, too (e.g., post the slides on Brightspace, use an editable format, like Powerpoint). More on creating videos and cognitive load from Vanderbilt University.
- Be engaging: use a conversational tone; making mistakes is okay!
- Let students see you in video recordings to increase engagement and impact.

Tools

Here are some set-ups you can use. However, there are many options out there, so you can always look into others. The Appendix has a few specific example videos of how each choice would turn out.

- Hardware – these are optional, aside from a computer to do the recording
  - Webcam: your laptop/desktop's built-in camera or a separate webcam, such as Logitech's 960 or C615
  - Tablet for digital handwriting: an iPad with pen or the Wacom pen tablet
  - Microphone: the Snowball, Blue Yeti, MXL Tempo, or MXL conferencing; the built-in microphone on most computers is noticeably lower quality
  - Headset: the Logitech wireless and wired versions are excellent value; a head-set is helpful if you plan to do lots of editing or doing more advanced recording

- Software
  - uOttawa recommends and offers technical support on: Powerpoint slides recorded using Echo 360 (in a classroom or using personal capture) or using voice-over Powerpoint from a laptop/desktop. Other options include:
  - YouTube Studio (simple editing), iMovie (Mac only), TinyTake (good for short videos), Camtasia (records screen, video, and audio; simple to advanced editing, but more expensive), or even Zoom (recording only). As usual, there are many other options if these don't work for you.
  - Notability (captures annotations on blank pages or a slide – can be run on a tablet or desktop)
  - Powerpoint or Keynote, to make and share slides

To make the recording:

- Key principles, from Edutopia (LINK) and TechSmith (LINK)
- Cognitive load theory guidelines, from Vanderbilt University. LINK
- Technology involved, from Shopify. LINK

To share the recording with students

- Upload the video to YouTube Studio (publicly or unlisted) then link to the YouTube video in Brightspace. Going through the YouTube step (i) allows for automatic captions (although expect greater error rates in technical material), (ii) means students can make themselves a playlist to watch offline, and (iii) Youtube automatically optimizes videos for low bandwidth connections.
- Alternatively, post the video directly in Brightspace.

Accessibility

Course content needs to follow the Accessibility for Ontarians with Disabilities Act (AODA). For example, export Word and PPT documents to PDF in the format "Best for electronic printing and accessibility)", tag images with descriptions or label as "decorative image", and add captions to videos (YouTube will caption videos roughly).

Intellectual property

You may choose to follow a traditional copyright route for licensing the materials you create; however, there are other options that make the content more accessible while still retaining some rights.

Creative Commons (CC) licensing is a format that lets you decide how much flexibility to give for use of your work. For example, you may decide that your work may not be used for commercial use and that any adaptations of your work need to be shared forward in the same way. You may also decide to waive all your rights by using a CC0 or Copyleft license. An interactive tool to choose a license can be found here.

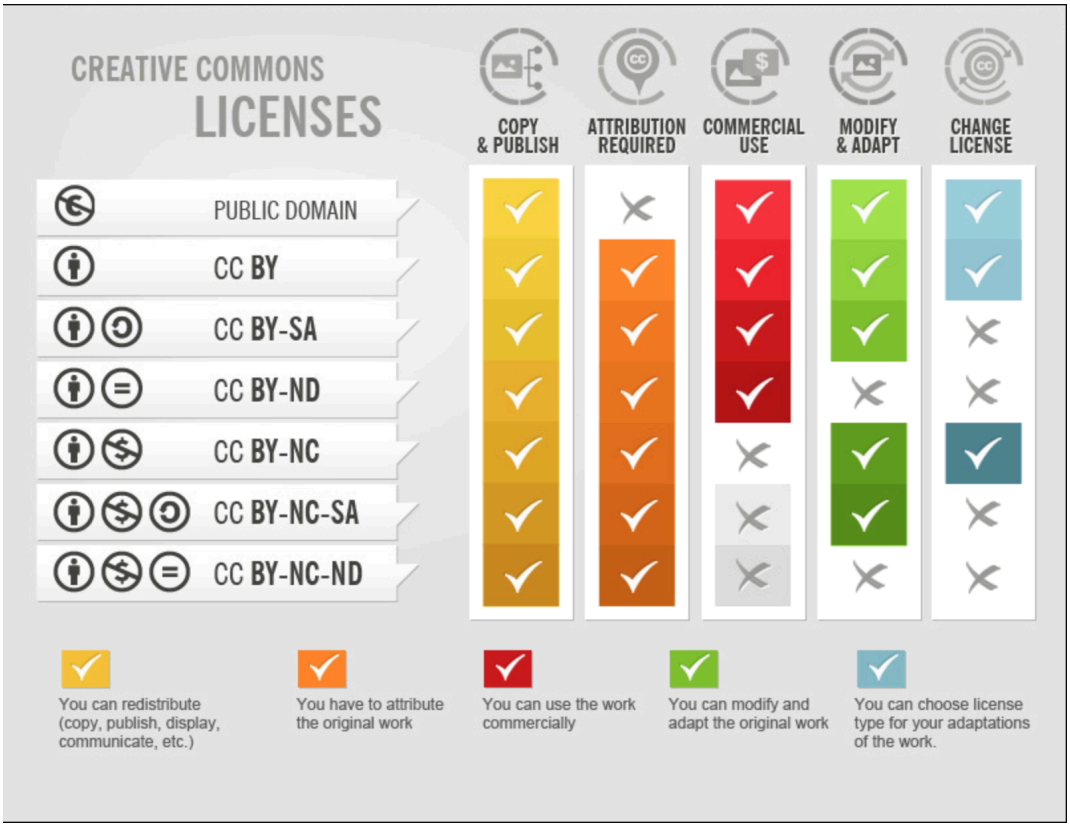


Figure 4. Creative Commons Licenses. JoKalliauer, 2015. https://commons.wikimedia.org/wiki/File:Creative_Commons_Licenses.png. Used under a Creative Commons Attribution-Share Alike 3.0 Unported license.

To go deeper

The following book delves deeply into every facet of teaching online: Major, C. H. *Teaching Online: A Guide to Theory, Research, and Practice*; Johns Hopkins University Press, 2015.

As another option, eCampusOntario's "Ontario Extend is a **professional learning program** grounded in the belief that the impact of learning should be the primary

motivator for creating technology-enabled and online learning experiences. It aims to empower educators to explore a range of emerging technologies and pedagogical practices for effective online and technology-enabled teaching and learning."

Mayer's Handbook of Multimedia Learning contains many principles for designing effective learning through multimedia.

The following article describes evidence-based best practices for creating videos, aligned with Mayer's Handbook. See Table 2 in particular. Students' satisfaction was higher with some video types than others, but learning outcomes did not differ; all videos were short (3 – 5 min). Choe, R. C.; Scuric, Z.; Eshkol, E.; Cruser, S.; Arndt, A.; Cox, R.; Toma, S. P.; Shapiro, C.; Levis-Fitzgerald, M.; Barnes, G.; et al. Student Satisfaction and Learning Outcomes in Asynchronous Online Lecture Videos. *CBE—Life Sci. Educ.* **2019**, *18* (4), ar55.

Content can become interactive by adding questions to videos using H5P through eCampusOntario's H5P Studio or other methods, so that students can self-assess as they watch.

Minimizing bandwidth

If you wish to optimize further, this article by Kyle Mackie has suggestions for reducing bandwidth requirements for course materials, including how to optimize video streaming and reduce file sizes.

Synchronous activities

The chapter on Communicating with students offers more explanations about how to facilitate synchronous sessions.

Up next

In the next chapter, we address options for assessments, including quizzes, assignments, and exams.

5.

ASSESSMENT: HELPING STUDENTS DEVELOP AND DEMONSTRATE KNOWLEDGE AND SKILLS

There are many ways for assessment to work in order for learners to build knowledge, track their progress (formative assessment), and to assign grades (summative assessment).

Principles for assessment

The University of Calgary created a thoughtful explanation of key principles to consider for online assessments, including their reasons, how to enact the principle, and further reading. The main points are:

- Focus on learning (especially the most important aims of the course)
- Balance structure with flexibility (consider potential/known challenges students are facing during the pandemic)
- Provide clear instructions and quality, prompt feedback
- When possible, replace timed exams with other types of assessments
- Emphasize academic integrity (e.g., through conversations early and often, and an academic integrity statement in the syllabus)

Asynchronous assessment options

Here are some options for structuring assessments over the course of the semester. We suggest relying less on marks from midterm and final exams, and providing more marks from other sources:

- Brightspace quizzes; posted weekly on, say, Thursdays and due the following Wednesday
- Complete a problem set (not evaluated, just for learning purposes); questions & answers posted as PDFs

Other alternatives include:

- Summarize weekly reading; submit as a Brightspace assignment
- Collaborative assignments; submit as a Brightspace assignment

Synchronous assessment options

- Answer a series of questions in class – the instructor can review and expand on the answers or move on if the concept is well-understood. For example LectureTools and Menti are classroom response systems that can be used to gauge students' understanding of material in near real time—they work as an online version of a clicker.
- Submit one or two sentences identifying the main point of a concept on Menti.

Exams

In short

Houston, we have a problem. A new situation requires new approaches, and one of the most challenging parts of moving to remote teaching is figuring out how to evaluate students' learning.

To make a long story short, if you wish to give a fairly traditional exam under these non-traditional circumstances, we recommend:

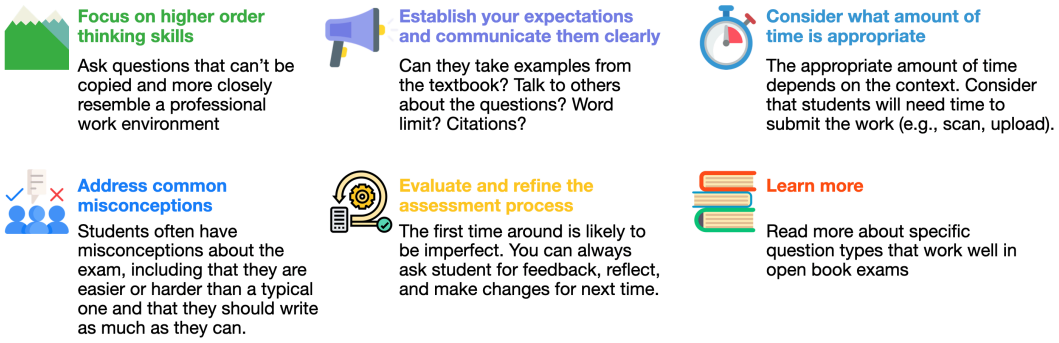
- a **collaborative, open-book** exam*
- an **individual, open-book** exam*
- if open-book exams cannot work, an exam using an online proctoring system

Whatever the exam style, administering the exam will require significant changes relative to typical, in-person exams. It is worth remembering that relatively few students cheat on exams. Most students live up to requirements around academic integrity, although an open book exam is probably going to be collaborative whether you want it to be or not, at least for a few students. Honest students may themselves feel cheated if they know that others have not upheald academic integrity standards and that is also a consideration.

Honour codes can also be used to emphasize and teach students about academic integrity and ethics; students can sign a declaration at the start of their exam attesting that they agree to follow the exam's guidelines.

Practical details

To give a collaborative, open-book exam, set a small, maximum group size (e.g., 3). Students should not self-organize the groups. Communicate clearly with students about how answers are to be submitted (e.g., there is one submission per group, submit as a Brightspace "assignment", answers will be checked using plagiarism software). You can require students to certify that they have participated equally in the preparation of answers.



Tips for using open book exams, from MacEwan University. To learn more, consult the following resources for: question types and a discussion of advantages/ disadvantages.

A more detailed explanation

One of the biggest hurdles to offering a strong, remote learning course is understanding that exams cannot be administered in the traditional way. The practical barriers to assessing students effectively and fairly (and remotely) are

significant for most professors. One approach is to consider alternatives to those traditional exams.

Recognize that there are no perfect ways to give a traditional exam under remote learning conditions. It's harder still during a pandemic. One approach that has occurred to many is to give short, timed exams with the underlying premise that it is harder to cheat if time is very limited. We are skeptical that this is true. Moreover, administering that kind of exam in a remote learning environment is likely to create serious (and stressful) logistical challenges: all it takes is one legitimate technical hurdle and the whole, carefully timed process could fail.

The University is looking at ways to enable both in-person exams as well as remotely-administered exams.

The pandemic makes problems more challenging. We cannot have thousands of students in gyms writing exams for multiple courses in the morning, followed by a second cohort in the afternoon, and a third in the evening, and expect to maintain physical distancing requirements. Moreover, even if the university can enable such in-person exams for some courses, a change in the pandemic status (like the much-anticipated "second wave") could derail plans with little warning. What would you then do instead to evaluate students?

Remotely-administered formats require software systems that may be: highly invasive, unreliable or susceptible to academic fraud, too expensive, technologically difficult for students, damaging to students' experience in our courses, or all of the above. Furthermore, we do not yet have access to proctoring software that overcomes the many challenges associated with that alternative approach to administering an exam.

It's a thorny problem.

A successfully administered midterm or final exam in a remote learning environment will:

1. Maintain academic integrity
2. Permit all students to participate equally
3. Yield a reasonable measurement of student learning
4. Not impose unreasonable costs (monetary or otherwise) for students or the university

To go deeper

- University of Calgary's Taylor Institute for Teaching and Learning, Five principles for meaningful online assessment
- A Guide for Academics – Open Book Exams
- 5 Tips for Using Take-Home Exams
- Create interactive videos using H5P through eCampusOntario's H5P Studio or other methods, so that students can self-assess as they watch
- Weleschuk, Dyjur, & Kelly. (2019). *Online assessment in higher education*. Taylor Institute for Teaching and Learning Guide Series
- Wisniewski, Zierer, & Hattie. (2020). The power of feedback revisited: A meta-analysis of educational feedback research. *Frontiers of Psychology*. 10:3087. DOI: 10.3389/fpsyg.2019.03087
- Jopp & Cohen. (2020) Choose your own assessment – assessment choice for students in online higher education. *Teaching in Higher Education*, pages 1-18. DOI: 10.1080/13562517.2020.1742680

Up next

The next chapter addresses communication in the course, both between you and students and well as among students themselves.

6.

COMMUNICATION AND FACILITATION IN THE COURSE

This chapter addresses communication in the course, both between you and students and well as among students themselves.

Communication between you and students

It will come as no surprise that clear, consistent communication is as helpful in online as face-to-face context, helping to orient the students in the course and to your expectations. You can tell the students both the **methods** they can use to communicate with you and the **response times** to expect. For example:

- Send Brightspace **announcements** for course messages, weekly.
- Hold **office hours** via videoconferencing (e.g., Teams, Zoom), Mondays 1–2 pm
- Students can **email** you with confidential matters; you check email every 24 hours
- The Brightspace **discussion forum** can be used for general or course-related questions; you check the forum every 24 hours
- During videoconferencing (e.g., Adobe Connect, Teams, Zoom), students can **raise their hand** to ask a question or use the **chat** function.
    - Note: at the time of writing, TLSS recommended Adobe Connect and Teams for synchronous classes, as well as Zoom for things like office hours. Zoom can also be used as an intuitive and highly reliable tool for classes; Zoom includes options such as breakout rooms for students to have small group discussions, a very useful function that is not available in Teams or Connect at this time.

Communication between students

- During videoconferencing, students can use the **chat** function to speak with each other or use **breakout rooms** (Zoom only) for students to have conversations in small groups, such as introducing themselves in the first class
- Students can use the Brightspace **discussion forum** to communicate with each other (but will likely use their own method instead)
- Seminar courses have their own set of considerations and could be considered in some ways like online conferences; suggestions here.

Behaviours, engagement, and rights in the online environment

Major goals in an online course are to build community and trust, engage students in the course, and help them take greater ownership of their learning process. To that end, we have a few recommendations:

- During videoconferencing, share expectations for online communication. For example, you could use or adapt the guide below; the file can be found in the "Quick start overview and resource documents".

Online conversation skills

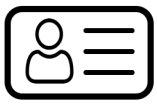
Suggestions for participants ☺

1. **Join early**. You can use the time to test the tech, chat with people, *etc*. If you need tech support, before the session is the easiest time to work things out.

2. Offer **extra warmth** with comments. Tone can be more difficult to read online so making an extra effort helps to communicate effectively.

3. **Stay on mute**, except when speaking, especially for bigger groups. Feedback is a challenge when there's background noise.

4. **Raise your hand** when you want to say something or ask a question, and wait until others have finished their thought, especially in larger groups. That way, we can ensure that everyone is heard.



5. **Say your name** when you speak, which is especially helpful in bigger groups and for people on the phone.

6. You can **use the chat function** to ask questions. Participants can answer each other. Remember that the session may be recorded.

7. **Keep questions and comments short**: Lots of people will want to contribute so each person's turn should include only key points.

8. **Share your video** (optional but encouraged) to help us remember that we are real people in the room. Be mindful of your **background** if you decide to use your video.

- LMS = learning management system
- There are excellent, detailed resources online. Suggestions for this short guide are welcomed!
- Icons from Freepik, Pixel perfect, Kiranshastry, Wanicon and Eucalyp from Flaticon
- Created by Alison Flynn

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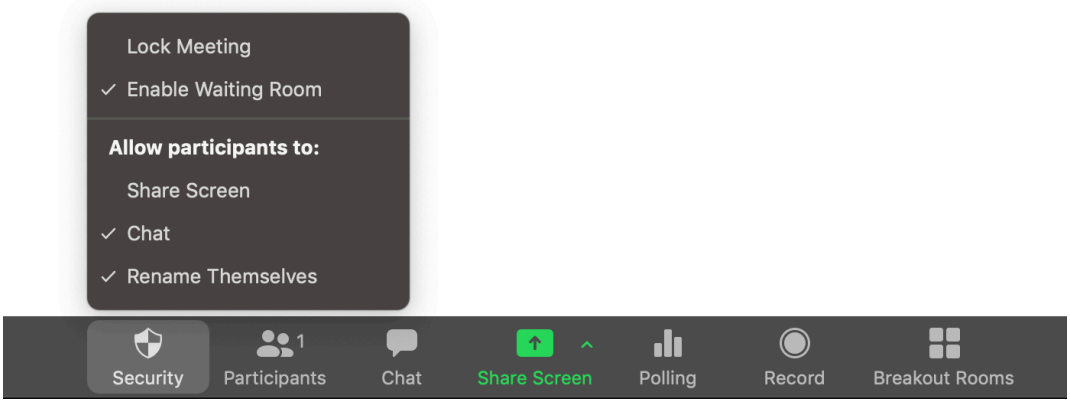
- Students are generally excellent at online etiquette, so they can be trusted to stay on mute if necessary when others are speaking or in large groups and to use the chat function responsibly. Closing the chat shuts off a main way that students can communicate with each other, ask questions, and build community.
- Encourage students to use their video and encourage oral participation (i.e., unmute to speak), but make this optional. While sharing our video lets us remember that we are working with real people online, students (or educators!) may not want their home environment shared, for a number of reasons.
- Similarly, encourage students to upload a profile photo of themselves on Brightspace.
- This course can be an opportunity for professional growth for students. While you may not be explicitly assessing their professional skills, you can ask them to self-assess.

Managing potential issues

- In preparing for a videoconference, you can use a tool that requires sign on from an authenticated source (e.g., Adobe Connect) or enhance security in yours sessions. For example in Zoom:
  - Use a password (currently a default setting in Zoom)
  - Enable the “waiting room” once most students have joined
  - Disable screen sharing, or enable it only for specific purposes
  - Chat can be disabled if needed, although this limits community-building and students’ ability to ask questions (of you or each other)
  - You can lock the meeting, but this will make it challenging for students to join/re-join if they have connection issues (or scheduling issues)



Zoom has a number of security and interactivity features that are easily accessibly in the bottom screen of an active videoconferenc e.

Building community and a good online experience

Building community and ensuring a good experience in an online environment includes a number of concepts, including building online presence both synchronously and asynchronously.

Recommendations for holding synchronous sessions

This collection of articles summarizes key aspects of facilitating online learning sessions.

Video series of recommendations

The first series of four videos from Contact North captures some main recommendations for working with students through videoconference methods.

Prepare before class

A YouTube element has been excluded from this version of the text. You can view it online here: https://ecampusontario.pressbooks.pub/remotecourse/?p=60

Prepare your students

A YouTube element has been excluded from this version of the text. You can view it online here: https://ecampusontario.pressbooks.pub/remotecourse/?p=60

Encourage participation

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Engage your student

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These next videos speak to two key areas: building teacher presence online and what to do when things go wrong.

Building teacher presence online

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What to do when things go wrong (like a zoombombing)

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To go deeper

"How to make online a 'place' for learning" provides an in-depth description of creating community in the online environment, plus many other resources are cited therein.

Up next

The next chapter explains ways in which you can help students become proficient online learners, an environment that will be new for the majority.

7.

HELPING STUDENTS BECOME EFFECTIVE ONLINE LEARNERS

Most students don't have experience learning in an online format. They may be *comfortable* but not necessarily *proficient* online. Students haven't chosen to work in this remote format and most would have chosen to be in a face-to-face class. You can ask them about their experience using a Google Drive form like this, which can be adapted to your own context. As such, they could use help knowing how to work effectively online. To support them, you could:

Provide a tip sheet

This tip sheet gives a quick, clean starting point; it was adapted from Carleton University. The adaptable version is available in the chapter: "Quick start overview and resource documents".

Tip sheet for online learning

1. **Stay connected.** Regularly check your Brightspace course announcements and email.

2. **Reach out** to your instructor or a teaching assistant (TA) if you have any questions or need clarity on something. Identify yourself and include your course code in the subject line – most instructors teach more than one course so they need some context. But please be patient, these are extraordinary times and they may need more time to respond.

3. **Find a space to work** – quiet and yours. Minimize distractions and do not try to multitask (Studies have shown that multitasking does not work).

4. **Stay disciplined**. Set a schedule for course work – doing readings, viewing lectures, working on projects and assignments, etc. – and stick to it. Make a list of all the assignments and exams you have to finish and their deadlines and do not procrastinate.

5. **Let your instructor know if you need additional considerations.** If you have medical appointments, are unwell, or have family needs, slow/low internet capabilities, older incompatible devices, limited access to a device, or are experiencing mental health concerns that are impacting your ability to complete your work, tell your instructor so that they can offer ideas and solutions.

6. **Think ahead.** You may be asked to use a new online tool to engage with your course e.g. Teams, Adobe Connect, or Zoom. Take the time to set up the tool in advance of an online meeting (at least 15 minutes beforehand) and review the technical requirements and instructions before using the technology to avoid last-minute technical issues.

7. **Prepare for the unexpected**. Many of your professors are learning to use technologies and platforms that are new or unfamiliar to them. It's going to take some time to adjust. Expect some bumps along the way.

8. **Don't give up and be proactive** if you hit a technical issue. For example, if your reading link is broken, maybe you can search for the journal article yourself by using the library search.

9. **Take care of your mental health**. Schedule self-care into your daily schedule. Call a friend, go for a walk outside, take a bath, or watch an episode your favourite show. It's important to carve out some time for yourself, especially when you may be feeling a little more stressed or overwhelmed than normal.

10. **Be patient.** Your instructors have had to make their teaching available to you online on a very tight timeline. The best online learning takes time to develop—it usually takes a team of experts who work over many months or years. Your instructor is likely doing this alone. Please be patient and compassionate if things don't go right for you the first time.

Note: this tip sheet was adapted from Carleton University for the uOttawa community.

Provide a worksheet

This adaptable worksheet can be used to set goals and make a plan, and includes explanations and examples. The file can be found in "Quick start overview and resource documents".

Online learning/work plan - Explanation

Fill in. Post in a prominent place. Revisit regularly ☺

How I take care of my **physical** health

- It's important to take care of our physical health
- Take breaks, go for a walk, find a new exercise or sport

How I take care of my **mental** health

- Schedule self-care into your daily schedule
- Stay connected and take time to celebrate all that has worked OK during this transition even though it wasn't perfect.
- Recommendations from therapist Amanda Carver and uOttawa

My **goals**

- This Growth & Goals module explains how to set SMART goals and become a more proficient learner. SMART = Specific, Measurable, Accountable (e.g., to a friend!), Realistic, and Time-defined
- Mini-deadlines can help you stay on track

My **schedule**

- Plan your schedule: LINK
- Try out a new time-management technique, such as the Pomodoro technique
- You can use any tech/tool for your schedule, not just this space.
- Stay disciplined. Falling behind makes it harder to reach your goals

My **work space**

- Find a work environment that works for you (as well as possible). Some prefer quiet, others prefer loud. It's also okay to move around.

How I **minimize distractions** and **set boundaries**

- My distractions: social media, I suddenly do many chores, read the news over and over again, food
- I love my parents… but they interrupt
- Read: "Deep work"
- Mindfulness (see Growth & Goals)

Where I **find resources**, and **people I can talk to**

- Resources could be for your health, course, or others.
- People could include friends, asking your teaching assistant or professor for help, etc.
- Help your instructor by engaging in class discussions (even a thumbs-up helps!)

My **tasks**

- Setting smaller tasks will help you reach your goals
- Regularly checking your email and course pages will help you stay on top of things
- Look ahead in your schedule: prepare for upcoming events
- Practice writing an exam

- You can chose the timeline to use for each section, e.g., daily, weekly.
- There are excellent, detailed resources online, such as: https://students.carleton.ca/2020/03/top-ten-tips-to-study-online/
- Icons from Freepik, Kiranshastry, Nikita Golubev, Kiranshastry, Catkuro, and Eucalyp from Flaticon
- Created by Alison Flynn. Suggestions for this short guide are welcomed!

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Online learning/work plan - Examples

Fill in. Post in a prominent place. Revisit regularly ☺

How I take care of my **physical** health

- Example: Run 2x per week
- Workout virtually (e.g., GNAC), free apps
- Get outside into nature (or at least some fresh air)
- Add new health habits (e.g., walk at lunch)

How I take care of my **mental** health

- Walk the dog, cook a new meal, learn the guitar
- Reward myself after a study session
- Take a break when I need to, meditate
- Stay social, go into nature
- Start a gratitude journal, being self-compassionate

My **goals**

- Stay focused during synchronous classes and while studying by closing other browsers and putting my phone on silent
- It's okay to let go of certain goals

My **schedule**

- How to plan your schedule: LINK
- Try out a new time-management technique, such as the Pomodoro technique
- You can use any tech/tool for your schedule, not just this space.

My **work space**

- This Growth & Goals module explains how to set SMART goals and become a more proficient learner

How I **minimize distractions** and **set boundaries**

- Take social media and news apps off my phone, limit app time, use an app (e.g., "Focus")
- Tell family members what my work time is and that I need the uninterrupted time
- Use head phones, make a "work playlist"
- Drink water

Where I **find resources**, and **people I can talk to**

- Stay connected
- I can always talk to these people: __, ___, ___
- Ask my instructor questions

My **tasks**

- Walk the dog
- Cook a new meal
- Reward myself after a study session
- Take a break when I need to
- Call a friend to say hi
- Explore the technology being used in the course

- You can chose the timeline to use for each section, e.g., daily, weekly.
- There are excellent, detailed resources online, such as: https://students.carleton.ca/2020/03/top-ten-tips-to-study-online/
- Icons from Freepik, Kiranshastry, Nikita Golubev, Kiranshastry, Catkuro, and Eucalyp from Flaticon
- Suggestions for this short guide are welcomed!

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Online learning/work plan

Fill in. Post in a prominent place. Revisit regularly ☺

How I take care of my **physical** health

How I take care of my **mental** health

My **goals**

My **schedule**

My **work space** and how I **set boundaries**

How I **minimize distractions**

Where I **find resources**, and **people I can talk to**

My **tasks**

- You can chose the timeline to use for each section, e.g., daily, weekly.
- There are excellent, detailed resources online, such as: https://students.carleton.ca/2020/03/top-ten-tips-to-study-online/
- Icons from Freepik, Kiranshastry, Nikita Golubev, Kiranshastry, Catkuro, and Eucalyp from Flaticon
- Suggestions for this short guide are welcomed!

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Encourage developing learning skills

The Growth & Goals module was developed to help students become more efficient learners.

Growth & Goals Module
Chair in University Teaching, Alison Flynn

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uOttawa

Challenges

Students face many different course and life expectations and a rapidly changing environment

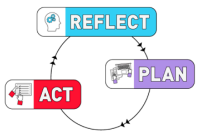
Two Undergraduate Degree Level Expectations are rarely addressed in courses: knowledge of the limits of knowledge (UDLE 5) and autonomy and professional capacity skills (UDLE 6)

Need for capacity building that is adaptable to a variety of contexts (e.g., French, English, many disciplines)

Approach: **Growth & Goals** Module

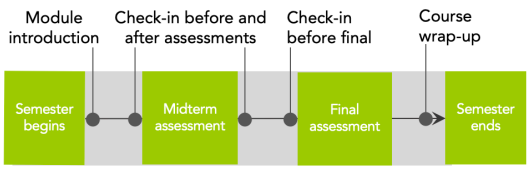
GROWTH & GOALS

What is the **module**?



Self-regulated learning


Metacognition



Growth Mindset

SMART goals

Integrated in courses, aligned with **learning outcomes**

FR EN
French and English versions

Exceeds AODA requirements

The module's success exceeds expectations

>3000 Students have used the module

82% Believe the module will improve their learning

97% Are using or plan to use the module's concepts in another course (n = 43)

80% First time doing such training

>75% Complete the module when it's worth ≥ 1% of grade

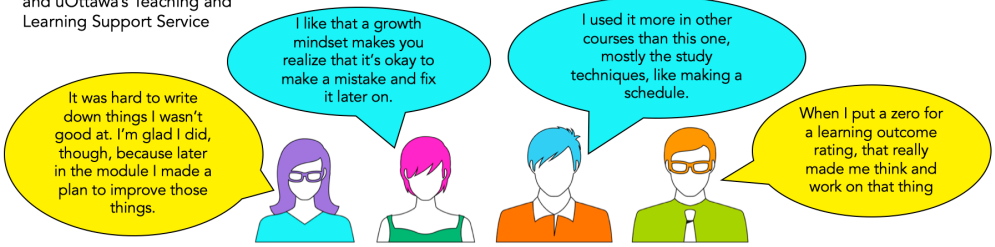
Metacognitive skills improve within a single semester

6 Development team members, including students and uOttawa's Teaching and Learning Support Service

9 Evaluation team members

20 Presentations

>10 Courses in >5 institutions use the module, US & Canada



Integrating the module in a course

1 – 4 hours
Adapt a template
No major course changes
Align with learning outcomes

Instructions and support provided

Results export to spreadsheet

Reuse in future years

Alison Flynn, FlynnResearchGroup.com/GrowthGoals | *YouTube:* Growth and Goals Module | *Twitter:* @GrowthAndGoals

To go deeper

Develop (and share?) your own methods of supporting students with the education community.

Up next

The next chapter involves supporting students' wellness, including physical and mental health.

8.

ADDRESSING WELLNESS

"Wellness is an active process of becoming aware of and making choices toward a healthy and fulfilling life. Wellness is more than being free from illness, it is a dynamic process of change and growth." – UC Davis

> "...a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity."
> – The World Health Organization

> "a conscious, self-directed and evolving process of achieving full potential."
> – The National Wellness Institute

To support students' wellness, you can suggest that they:

Visit uOttawa services

- Health Services includes a Mental Health group, healthy lifestyles, and other services.
- Student Academic Support Services provide many tools and resources, including counselling.

Consult external resources

- Consult resources on staying emotionally healthy during a pandemic, such as:
  - "How to Stay Emotionally Healthy During the Coronavirus Outbreak" by Jamie D. Aten, in Psychology Today, Mar 2020.

How and when to provide suggestions and resources

There are no rules for this but some ideas include:

- Sending periodic Brightspace announcements, which can be set up in advance.
- You can put resources links like the ones above in a Resources section in Brightspace, available in the Brightspace template, located in "Quick start overview and resource documents".

Up next

The next chapter addresses the possible roles of teaching assistants in a remote course.

9.

TEACHING ASSISTANTS' ROLES

There are two main roles to consider for teaching assistants (TAs). For these options, training will ideally be available to them.

Contributors and co-creators

TAs can help create course content, such as videos and problem sets for laboratory and theory courses.

Facilitators

TAs can facilitate DGDs, guide discussion forum conversations, respond to emails, or support the course in other ways.

To go deeper

The following articles explain ways in which students can be involved in educational design:

- Healey, M.; Flint, A.; Harrington, K. Engagement through Partnership: Students as Partners in Learning and Teaching in Higher Education. *High. Educ. Acad.* **2014**. Link
- Curran, R. Students as Partners—Good for Students, Good for Staff: A Study on the Impact of Partnership Working and How This Translates to Improved Student-Staff Engagement. *Int. J. Students as Partners* **2017**, *1* (2). Link

Up next

The next chapter addresses equity in the online environment, with a particular focus on education during a pandemic.

10.

ADDRESSING EQUITY IN AN ONLINE COURSE

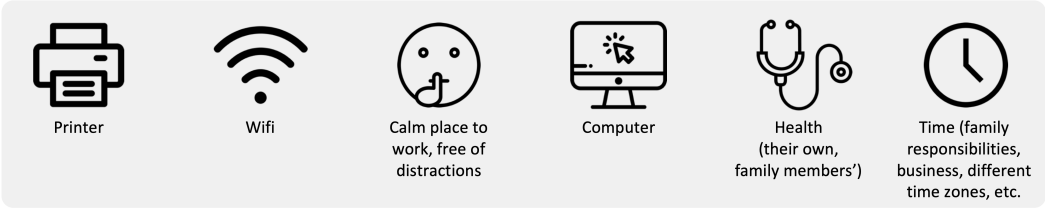
Consider how the pandemic affects students

When designing a course for remote instruction, flexibility is important. In this pandemic situation, students have not CHOSEN to take a remote course. They are being required to take courses remotely and may not even have taken an online course before. Even if they had made that choice, a pandemic is not the ideal circumstance in which to begin that experience.

Students will not have equitable access to essential tools and materials for an online course. For example, students may: (i) not have a printer, (ii) have poor or no wifi, (iii) not have a calm place to work, (iv) not have a suitable device, (v) health (their own or family members'), or (vi) may be working in a different time zone, be working for a family business, or have other responsibilities that take time away from their studies.

It is easy to imagine myriad ways in student identity could line up with challenges they will experience as remote learners. Remember also that intersectionality (belonging to more than one group that traditional experiences obstacles to full participation) makes potential challenges more complex and hard to fully address in advance.

We suggest simply addressing this issue at the outset of the course, and acknowledging the circumstances in which we all find ourselves (students, professors, TAs). We share the goal of trying to include everyone, regardless of their circumstances. Including everyone with reasonably similar effectiveness will simply require a bit of extra care and patience. This does not imply discarding academic standards, but does imply applying them thoughtfully in an individual way wherever practical.



Students may not have access to these elements during the pandemic.

To address potential issues, you can ask students what tools they have available to they, for example, by copying this questionnaire (adapt as desired). Using asynchronous options is one way to allow for greater flexibility in the course. There are also lower bandwidth alternatives to common tools that you may wish to explore.

Student can be referred to uOttawa's Student Academic Support Services, and Accommodation Services (formerly "Access Services") in particular. Educators should add an accommodation statement to their syllabi.

Remember how the pandemic affects you

Students are not the only ones who have or will experience serious challenges. Professors and TAs are subject to all of the same constraints. Pressures could even be greater under some circumstances.

Be kind to yourself and forgiving of colleagues. We suggest giving yourself extra time to get things done if you find yourself managing many obligations. If colleagues appear to breeze through some of the challenges that take you longer, maybe they do not have children, or their children are grown, or… just, be kind.

11.

WHERE TO FIND HELP AND ADVICE

Teaching and Learning Support Service

The (TLSS) offers guides and support (e.g., phone, email) for creating each aspect of the course in Brightspace. They also offer a series of webinars on aspects of remote teaching using a synchronous model; currently, you register and can see the webinar while it is being broadcast, but not yet any other way.

Faculty of Science support

We are looking to staff a hotline for professors (chat, videoconference, and phone). We anticipate that this service will be available by July 1. André Dault can be contacted about technical questions for particular platforms. If he cannot answer them, he will be able to recommend the next best place to go.

Members of the Faculty of Science will be holding workshops and webinars on specific topics. For example, Elaine Beaulieu and Colin Montpetit are planning sessions for the Department of Biology and they have expressed interest in opening them up further.

We are planning a guide for teaching assistants as well as training sessions for teaching assistants in early August (e.g., on facilitating online DGDs, creating content).

We will have a supply of tools available for professors and TAs who need them to create content such as videos, including microphones, webcams, writing tablets, and software. Please use the form below if you would like access to these tools.

Next steps

Periodically, we hope to showcase effective and timely approaches to remote courses that you have taken. Please let us know if you would be willing to share your

course for that purpose, as well as your thinking behind it. We could all use a little extra inspiration.

Please feel free to contact us at any time with questions, suggestions, and concerns. In particular, we check this form weekly and will continue to update this guide as the situation evolves.

Thank you for reading!

SPECIFIC EXAMPLES OF VIDEO SET-UPS

This section contains specific examples about set-ups, recording, and processing options, organized from the simplest to the most advanced. Prior to presenting these ordered examples, we include a reminder about keeping learning outcomes in mind throughout the workflow process of generating remote learning content.

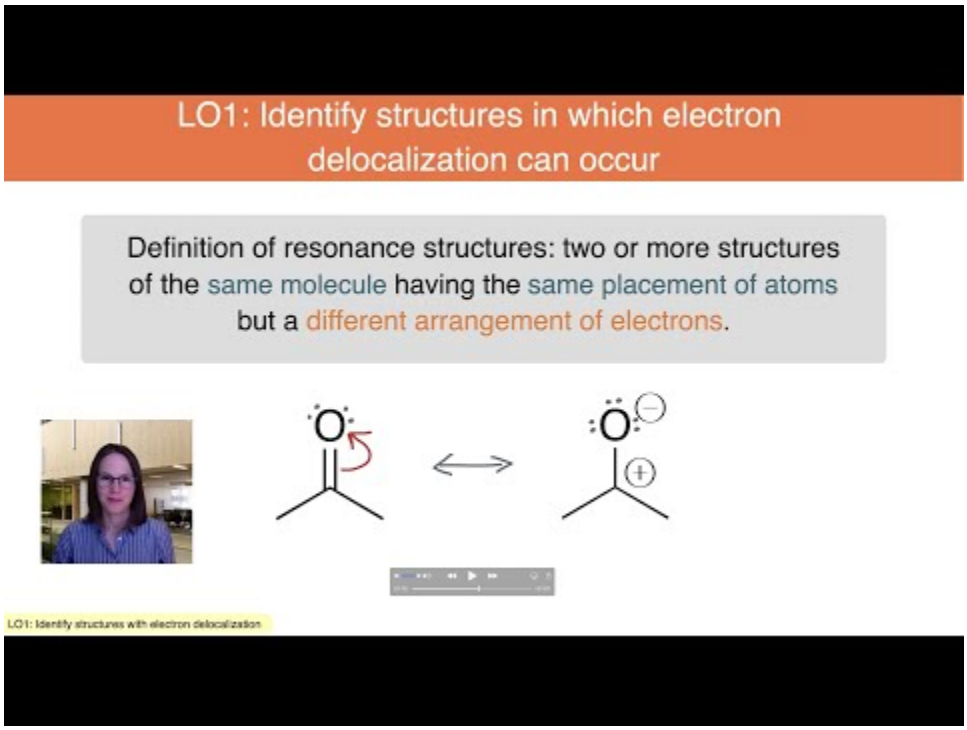
The chapter entitled "Tools and techniques for creating and sharing content" described key guidelines to consider when making videos, in order to maximize student learning and engagement.

The learning outcomes should inform the choice of technologies, not the other way around. What do students need to take away from this course? Then decide on the tools you need to accomplish your goals. Keep things simple by using tools that you already have and know, to the extent possible.

You will probably encounter learning curves when creating workflows that are needed to create good quality remote learning materials.

Aligning with the course's intended learning outcomes: tech in service of teaching

- **Set-up**: iPad (or tablet such as Wacom), Notability, PPT or PDF (for slides), Blue Yeti microphone, built-in computer webcam
- **Content**: Video segments chosen according to the course's intended learning outcomes
- **Processing**: Camtasia (alternatively: YouTube Studio — learn how, iMovie, or other video editing software) → Export to MP4 → upload to YouTube as public or private → post in Brightspace



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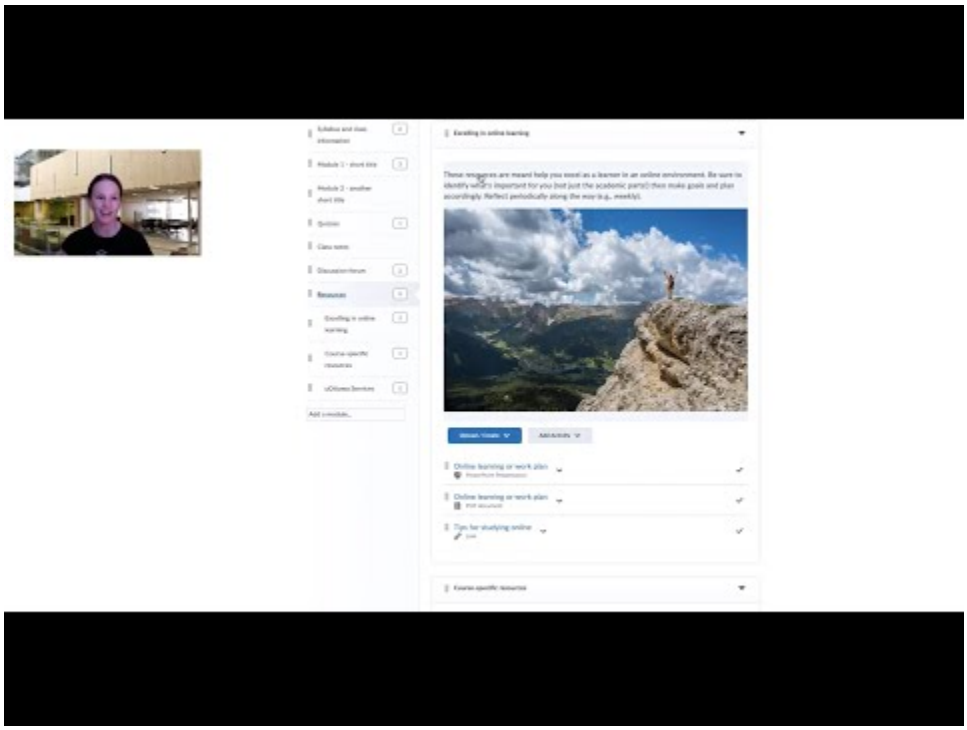
Setting up the course in Brightspace

This video gives a tour of a Brightspace course template that you can adapt for your course. The TLSS has detailed guides for each aspect (guides and support).

- **Set-up**: Blue Yeti microphone, built-in computer webcam, Zoom to capture built-in webcam feed; Camtasia to capture computer screen (Brightspace course)
- **Content**: Brightspace screen
- **Processing**: Camtasia (alternatively: YouTube Studio — learn how, iMovie, or other video editing software) → Export to MP4 → upload to YouTube as public → post in Brightspace



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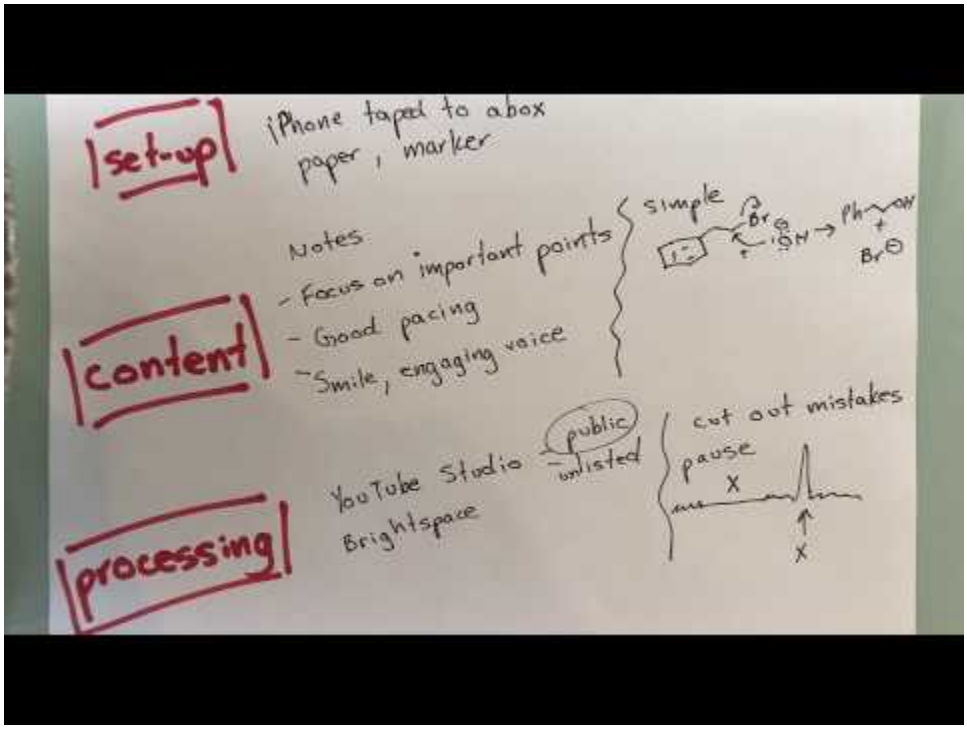
Below, we provide examples for approaches for remote learning video construction that include real-time content creation. These examples include:

1. Creating a video of handwriting on a blank page (the remote learner's blackboard…), with video and audio captured using an iPhone 8, to present a brief section of course material,
2. Creating the handwriting outcome using purely digital tools,
3. Approaches with a bit more sophistication around inlaying the professor's image inside the image of course slides using a greenscreen,
4. An example of a video-based lab demo,
5. A high production value video showing what a leading professor can achieve with a team of video production professionals intended to provide a little inspiration.

Example 1 – Handwritten notes

- **Set-up**: iPhone, stack of books, marker, paper, Make notes ahead of time
- **Content**: Focus on important points, good pacing, smile, use an engaging voice
- **Processing**: YouTube Studio to remove undesired parts (learn how), list as public or private, post in Brightspace



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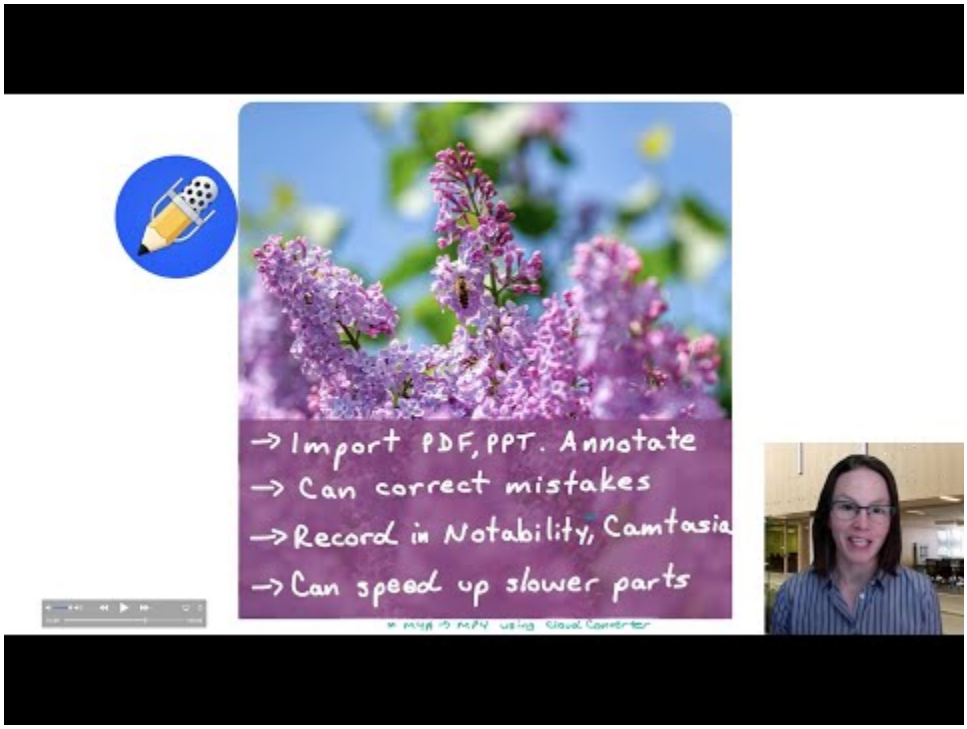
Example 2 – Digital handwriting and slides

- **Set-up**: iPad (or tablet such as Wacom), Notability, PPT or PDF (for slides), Blue Yeti microphone, built-in computer webcam
- **Content**: Digital handwriting, can correct mistakes
- **Processing**: Camtasia (alternatively: YouTube Studio — learn how, iMovie, or other video editing software) → Export to MP4 → upload to YouTube as public or

private → post in Brightspace



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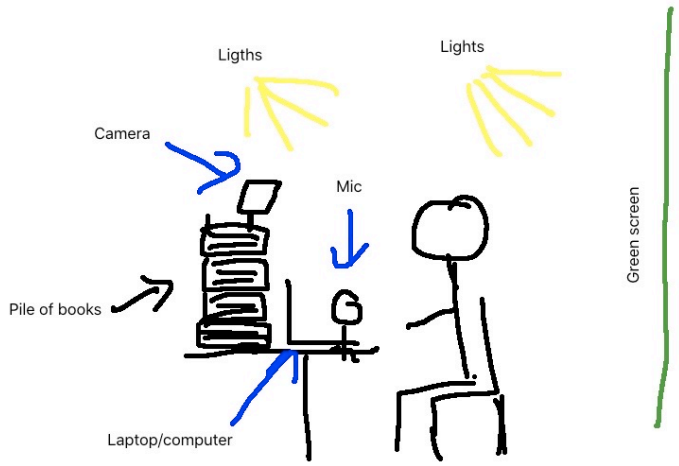
Example 3 – Recording using slides and green screen

In this example, Dr. Elaine Beaulieu describes how she creates videos using a combination of tools.

- **Preparation**:
  - *Equipment*: Snowball microphone, Logitech HD Pro Webcam (C920), Camtasia editing software, lights and green screen (easy to buy as kits on Amazon)
  - *Set-up*: Videos recorded on laptop using Camtasia software, which captures sound, computer screen and video output. Video camera should



preferably be rigged so that it is slightly above eye level (avoid nose shots). What ever it is you wish to record on laptop screen will work (powerpoint presentation, web based apps or browsing, drawing, etc...).

- (A note from the Flynn & Kerr: A green screen is optional. It lets you "cut out" your image within a video more easily. It is still helpful for achieving that effect, but video editing software is much more capable than it used to be at correctly identifying the boundaries of a person and clipping out everything outside those boundaries.)
- My green screen is small and only allows me to sit in front of computer to capture my image, I set up lighting for the green screen (even lighting on the green screen helps processing image during editing), but mostly on me.

- **Content**: Most videos are recorded with at least a minimum of script preparation, but nothing is rehearsed. I don't rehearse my lectures, so I mostly don't rehearse videos either, I accept it's not going to be perfect, but time constraints means "good enough" is totally acceptable.The process may differ for the purpose of the video. Depending whether I am recording an emergency lecture (end of last semester), a blended course video resource or whether I am answering a student's question.
- **Processing**: Videos were all edited in Camtasia or Quicktime (a free alternative would be tinytake). All my videos were posted in YouTube. When uploading a video into your account, you can create a playlist for your class, and you can chose who can see you videos : private, unlisted or public. I normally choose the unlisted option for my courses, which means your video would not come

up in a YouTube search, but anyone with the link can access it. I specify to my students, in my syllabus and at the beginning of class, that all my teaching material, PPT, videos, activities, etc. are my intellectual property, which means they cannot reproduce it or post it somewhere else or distribute it without my consent.

Example 4a

Here is an example of a lecture. There is little editing apart from moving my image left to right and perhaps zooming in/out. This is a very simple recording, and adding a video of myself is optional, but I add it because I'm comfortable with the tech and because I believe, perhaps wrongly, that my presence on screen is more engaging than screencast alone.

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Example 3b

Here is a video recorded for a blended learning class, where students have tasks to accomplish and I am guiding them in learning how to use the software needed to accomplish the task. You'll notice there is generally more editing to these videos (arrows, text bubbles, zooming in and zooming in/out) than there is in lecturing video. This means the process is more time consuming and demands greater knowledge of video editing:

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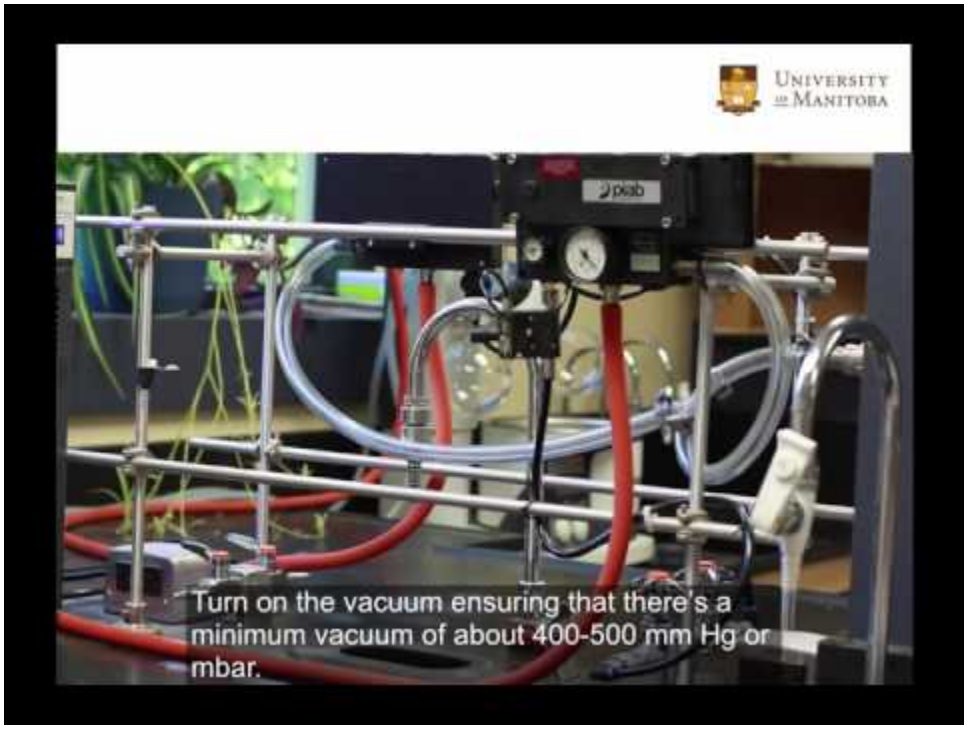
It is also possible to create short videos that answer specific questions: just make sure you link to them in ways that make both the question and your answer easy for students to see and find.

Example 4 – Laboratory video

Here is an example from Dr. Horace Luong at the University of Manitoba. This

example uses a more advanced set-up and editing, so the details can be found in the attached document.



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Example 5 – Full production

In this most advanced example, Professor François Chapleau collaborated with an external firm to produce this incredible video. While such production goes far beyond an individual's editing capacities (unless you are Steven Spielberg, maybe), we did want to show an example of what was possible when working with a team of professionals in the area.

This examples is provided more as inspiration than as a spur for aspiration.

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We also sincerely thank all the educators and institutions who chose to make their work openly available so that we might use it in this guide, with credit to that work when it is cited.