The CAS Class Guidance Documents for Fall 2020 were produced by CU Boulder faculty in June 2020 with the intent of providing recommendations, ideas, and observations about teaching in a remote on-campus environment. Three committees drawn from all divisions in the College of Arts & Sciences were asked to provide ideas and recommendations in four areas: Lab Classes, Field Classes, Large Lecture Classes, and Remote/Online Teaching. While there is no lack for information in all of these areas, this is an attempt to aggregate information collectively authored by the rank and file faculty who are currently teaching at CU.

1. The teaching documents do not serve the same purpose as the implementation guidance issued by Campus committees. Instead, these documents simply provide faculty and departments with ideas and recommendations regarding how they might address the challenges associated with teaching at a University during a pandemic. The recommendations and ideas are nothing more than suggestions on how to meet the criteria and constraints set forth by the Campus Administration.

2. Faculty, staff, and student safety is paramount. The recommendations offered assume that safe conditions have been established by the Campus. These documents are agnostic about Campus policy designed to offer an 'in-class' experience in the Fall 2020. They do, however, reiterate the importance of assigning teaching responsibilities equitably especially in light of the extra contractual pressures faced by instructors, lecturers, and graduate students.

3. The students coming to campus for the first time or those returning currently experience a world with many unknowns and tremendous upheaval. As faculty, we should embrace those concerns openly. Open discussion in any format is an important tool we can use to both help our students learn and chart a path forward once they leave the hallways and Zoom channels of CU.

understand how most effectively to use technology to enhance teaching.  The Center for Teaching and Learning is also a valuable resource, as is the Office of Information Technology, especially for working with Canvas.

All lectures for large classes in the fall of 2020 will be given remotely or online. A simultaneous in-person component for a subset of students with rotating attendance may be possible, depending on the size of the room and class enrollment.  It is possible that many faculty members will be in a position of teaching in a mode they have never considered adopting or which they have actively resisted.  Designing classes online imposes unexpected constraints on many, though the available technologies for teaching online create new opportunities for developing pedagogically effective courses.  This section identifies some key principles and practical suggestions to help faculty members adapt to our new reality.

PRIMARY RECOMMENDATIONS:

As we've learned from last semester's experience, in most instances it is not possible simply to move /0 G(it)]TETQq0.3f00000912 0 612 92 reW*nBT/F4 12 Tf1 0 0 1 33.65 69.47Tm0 g0 (

t to o

- ‹ Clicker question responses can be collected through iClicker REEF (free, integrated into Canvas grades).
- ‹ Less time-consuming to produce,

# Assessment

Principles of Assessment

- ‹ Set expectations for assessments the first day of class and in the course syllabus.
- ‹ Design assessments that between students.t Toward that end, provide clear and detailed rubrics and use them

# Attendance

Goal: To design tips and principles for class attendance policies when social distancing is important, but also to develop policies and best practices to deal with absences

- ‹ Use technologies and tools that are vetted and approved and supported by OIT.
  - o Use Canvas for as much as possible.
  - o Do use unsupported software/tools unless they offer essential functionality for supporting your class's learning goals.
  - o Information about supported technologies and accessibility is available on several CU Websites, including:
    1. https://www.colorado.edu/accessible-technology
    2. https://oit.colorado.edu/services/teaching-learning-applications

2. Practices for the "lecture" component

- o Use this quiz/homework or a separate survey to identify, as early in the semester as possible, students who feel they don't have sufficient resources to participate in online activities, such as a good WiFi connection, a proper device(s), a safe and private place to work, etc.
- ‹ Find ways to get students using the TECH early and often so that they're comfortable with it; and instructor comfort too!
- ‹ Leverage the benefits of the online format.  For example, students can do independent research and gather certain kinds of data when online.   They can collaborate on Google Docs or explore with Google Earth.
- ‹ Don't try to make an online activity be just like a physical classroom. Explore possibilities that online offers that aren't feasible for in-person class time, such as having students (individually or in small groups) work on different texts/assignments/problems (but see notes above and below about supported platforms).
- ‹ Set clear expectations, provide clear instructions in redundant information paths, and hold students accountable for work.  Always provide information through same delivery methods so that students have the greatest chance of "knowing where to go" to get critical information. Communicate with students regularly and frequently, e.g., weekly updates on upcoming lessons, assignments and due dates.
- ‹ Design online assignments that help students develop specific skills and explain how each assignment helps them to achieve these learning objectives. Provide students with opportunities to assess their understanding of course material with low stakes assignments (formative assessments).
- ‹ Scaffold assignments to build skills needed to complete final projects/papers (summative assessments).
- ‹ Use Canvas, Zoom, and other technologies officially supported by OIT whenever possible to minimize students' need to create new logins, learn new platforms, etc.  This will give students a more coherent experience and minimize difficulties and 0 g2 0 0 1 215.85 240.58 Tm/F4 12 Tf1 0 0 1 166.08 255.33 Tm0 g0

are difficult to teach remotely  If the laboratory course is required for the degree, all efforts should be made to offer a version of the course that achieves the original learning goals.

## *2. Can co-requisite lectures be unlinked from laboratory courses?*

Many laboratory courses throughout Arts & Sciences are co-requisites with lecture-based courses.  Some departments are unlinking these courses so students have more flexibility in terms of when to register for the laboratory component. Individual departments should be consulted about this option.

## *3. Can any of the curriculum be moved remote or online (synchronous or asynchronous delivery)?*

A significant factor in determining whether a laboratory course can be taught remotely is how adaptable the curriculum is while also maintaining the learning objectives of the course. Making some or all curriculum available online may be necessary to reduce the amount of time students spend in the lab,for students who test positive for COVID-19, or for those who choose a remote experience.  Some content for your course may be amenable to remote teaching. Tutorials are an example of a content component that could be recorded and viewed by students before they attend lab.  Advice on how to efficiently move lab curriculum online can be found [here.](#)

> **Online resources.** Many online and software-based resources are available for recording lectures and lab tutorials (links below).  Short ten-minute tutorials may be an effective approach for teaching lab techniques that are specific to the lab course.
> > [Zoom](#)
> > [Kaltura](#)
> > [Quicktime](#)
> > [Screencast](#)

| | |
|---|---|
| Multiple Disciplines | Labster |
| | MERLOT |
| | Pivot Interactives |
| | JoVE |
| | LabX |
| Biology | BioInteractive |
| | PhET Biology |
| Chemistry | Chem Collective |
| Physics | My Physics Lab |
| | PhET Physics |
| Geosciences | Collaborative Resource |

**Creating a sense of community with remote teaching**.  A large factor in student dissatisfaction with online and remote courses is the loss of a sense of community. Teaching staff should seek resources for developing and maintaining the class community or social presence with both synchronous and asynchronous teaching. Resources for doing so can be found here.

4. When a student chooses to take the cID 3060525.12(he)5( )-7cID 3 14 ﬀ1 6.43 ﬂ8971

1. *What barriers to infection can be implemented to limit student-to-student transmission of COVID-19?*

Minimum requirements for most labs will include face masks and possibly gloves.  The US Centers for Disease Control and Prevention has provided interim guidelines for biosafety during the COVID-19 pandemic (see also Safer at Home Guidelines for Higher Education put out by the State of Colorado).  In addition to students wearing masks and possibly disposable gloves, suggested approaches include:

## *3. Can equipment be safely controlled and maintained?*

When shared equipment is used and multiple sections are offered in a single laboratory space, the space should be meticulously sanitized with 70% ethanol, 10% bleach, or equivalent. Recommendations for cleaning and maintaining equipment can be found here and here.

**Frequent sanitizing.** Rigorous disinfection of equipment used by multiple students even when gloves and masks are used. This should include protocols where every student cleans the equipment they are using before and after use. Routine cleaning of lab surfaces, door handles, sink handles, paper towel dispensers, and any other surfaces that are touched should be performed before and after every class session. Computer keyboard skins should be considered for quick and safe sanitization.

**Limit sharing of equipment between labs.** Equipment used in individual teaching labs should remain in place during the semester. Sharing equipment between labs should be restricted to prevent cross-contamination of lab spaces.

**Limit the number of students using equipment.**

**Observations About and Suggested Approaches to Field Teaching During the Pandemic**

comprehensive or meant as prescriptions. They are offered as one vehicle to stimulate creative thinking by individual instructors and foster dialog between practitioners, which is where great ideas are born. The challenges and demands of field teaching bear a strong resemblance to

**SUGGESTIONS**

A. **Setting group expectations for adhering to all safety guidelines and rules**

    a. Different individuals perceive the risk posed by the novel coronavirus in starkly different ways. The college-age population contains particularly large numbers of people who perceive the risk to be comparatively low. Many faculty have expressed concern that students with whom they will interact will disregard social distancing guidelines, thereby increasing the risk of an outbreak within the class cohort. None of us can control what our students do outside of class. But we suggest that you clearly list all of your expected class norms on the syllabus and engage your students prior to the first day of class in a frank and respectful dialog about the risks posed by the virus to the health of everyone in the class community (and those they come in contact with) and to the accomplishment of your shared educational mission. This includes, for field courses that require travel, recommending to students that they practice strict social distancing measures for numerous days prior to initiation of the course. Further outline your own concerns and facilitate development of a written consensus on shared community values and an agreed code of conduct. Students are much more likely to follow that code if they have participated actively in its creation.

    b. Teaching and taking classes in the midst of the uncertainty we face this fall semester is going to take lots of work, thought, and courage. Your students may well experience fatigue, anxiety, and uncertainty at some point during the semester. We recommend that you become familiar with the mental health resources available on campus and include a description of those resources in your syllabus. Encourage your students to seek this assistance as needed.

    c. Ensure that all participants wear proper protective gear (e.g. masks and gloves), you have sound communication and evacuation plans, carry a first aid kit, and have appropriate first aid training.

    d. Participation in any in-person class experience inevitably presents some infection risk no matter how thoroughly the instructor has planned and how extensive the precautions they have taken. It is important to remind students that this risk exists and equally important for the <span style="color:red">campus to shield instructors and community collaborators from liability. Will the campus develop an expanded liability waiver that students and collaborators will be expected to sign prior to participating in any field class?</span> If the campus develops such forms, be sure to get all of your students to sign one. Otherwise, it would be prudent to have students sign the standard liability forms that currently exist.

B. **Recognition of the campus requirement to proviii̇ETQ̇drṫpÿeV̇BF1Tffn0 g0 G4vp̈R0.000009 0 8 ̇7 reV̇**

hands after using the pump. Wear gloves when using gas pumps. Try to bring

participate in the remaining field content, which is a significant problem whether that person is an instructor, TA, PA, or student. The risk of virus transmission on a long trip in a sealed car with an ill person increases. <span style="color:red">Is it possible to obtain antibody tests for all class participants prior to departure?</span> If so, the designated evacuation driver would ideally be a person who has previously been exposed.

    ii. Another idea is to ask that all students who participate in field courses have health insurance plans or special fieldwork insurance that includes evacuation coverage. We recognize that few standard insurance policies provide such coverage. <span style="color:red">Is it possible for CU to provide evacuation insurance for such a class?</span>

e. Assess the status of medical facilities available at or near the field location. It can be difficult to obtain accurate community-specific information about rates and impacts of CV2 0 612 792 healthpa

e.

sanitize equipment? All these issues, which are covered in more detail earlier in this document, are equally relevant for these longer-duration trips.

j.

The goal of the best practices for remote and online teaching committee was to identify principles that lead to effective pedagogy, make concrete recommendations to enact those principles, and point out both resources that are already available and those that should be provided. Our aim was not only to provide ideas about teaching in the particular circumstances of Fall 2020, but also, more broadly, to establish a basis for ongoing improvements in pedagogy regardless of modality.

Two caveats: First, these recommendations do not constitute an endorsement of any particular plan for returning to teaching in Fall 2020, but rather are intended to support all instructors. Faculty rightly have differing perspectives on how pedagogy should be delivered in the current social context. Second, we have provided recommendations for best practices in teaching. While they should not be construed as A&S policies or requirements, they are designed to support our faculty in meeting the expectations of quality practices in our college.

I.            Commit to quality education practices
    A.      Maximize opportunities for interaction, engagement, communication, and community with and among students for all modalities.
    B.      Provide timely, regular feedback to students.
    C.      Establish structure and consistency to support student success.
    D.      Utilize known evidence-based, effective practices (see Practices).

II.                      : Commit to quality and supportive assessment (of student learning, and faculty practices)
    A.      Document work (of faculty, and students) that is often hidden, e.g., designing new curricula, spending more time on office hour, making student flexibility plans.
    B.      Support continuote000912 0 612 792 retiliiCID 14⅗F1 12 Tf5 g0 G( )]TJETQq0.00000912 0/F1 12

B.       Define requirements at the department level (e.g., curriculum, teaching assignments).

C.       Be prepared to shift modalities based on campus-level directives.

The expectation is that, at minimum, all faculty should commit to the following essential educational practices for remote and online teaching:

1. Use a consistent central platform for the course (e.g. communication, materials, assignments, grades and class meetings); for the sake of cross-campus consistency for students, this should be Canvas and Zoom in almost all instances, knowing that Canvas can also serve as a portal to external tools.
2. Hold remote office hours on a regular and consistent basis and ensure that students know how to contact instructors for consultation.
3. Provide regular opportunities for synchronous and/or asynchronous engagement among students and between instructors and students; instructors should g6(o)6(r)-E(e )-4e 0 4(as)-4( )-2(c)6(an)4(

5. Use breakout rooms in
Zoom to facilitate small-group

2. Use Canvas for students to

| course for the following term. | Google Forms and Google Docs could be helpful | | |
|---|---|---|---|
| 2. Incorporate frequent (e.g. weekly) student reflections into courses to incorporate any changes within the current term. | 3 - Campus guides on remote learning for students from the Academic Advising Center, Disability Services, and ASSETT | | |
| 3. Provide guidance to students on best practices for learning online and remotely. | 3 - Disability Services guide to Accommodations for Remote Learning. | | |
| 4. Engage in professional development opportunities to develop your capacity and confidence to teach remotely. | | | |
| 5. Pay careful attention to ensure you accommodate students with disabilities. | | | |

C.    Maintain academic integrity and learning goals

cademic Advising Center

the start of the term
(availability via email,
response time, etc.).

2. Encourage department
chairs to communicate early
and clearly with each faculty
member about any changes in
teaching or workloads.

3. Encourage students to
reflect and to include an
estimate of their weekly
workload with the general
formula of ~ 2 hours of work
for each contact hour (e.g. 3
credit class = ~ 6 out of class
hours a week).

4. Plan for absences and
illnesses (for students allowing
makeup work, for faculty with
backup instructors and
contingency plans).

co-facilitate Zoom sessions,
assist with lecture capture,
and other essential
technologies, assist with live
questions in the chat during
lecture).

External microphones and
speakers, and conferencing
webcams and systems (such as
document webcams, and WiFi-
enabled on-screen pointers) to
better capture remote
recording or streaming of in-
person sessions. This should
include allowing questions
from both audiences in hybrid
and remote mode.

in person or in the hybrid
mode. Minimize redundancy
of work in different
modalities. Leverage
technology to ensure access in
different modalities (e.g.
lecture capture or Zoom
capture a live lecture for later
access asynchronously)

2. Encourage chairs to identify any special accommodations that faculty and instructors may need to carry out their online or remote teaching responsibilities.

3. Account for needs of faculty and students beyond medical necessity (with flex time, etc.).

4. Refer students and faculty to mental health and wellbeing resources.

provide additional flexibility and for contingency planning.

4 - CAPS for students, FSAP for faculty.

interaction, such as grading and

development of our students.

4. Be flexible in allowing for submitting assignments. Allow a reasonable time window for students to submit either timed or untimed assignments to address issues related to conflicts and time zones.

5. From the beginning of the semester have students introduce themselves in the online space. If you have a large class, make use of recitation divisions so that there is a smaller community that is available to the students.

6. Depending on the availability of outdoor spaces, encourage courses with < 50 students to meet outside at least once in the first two weeks of class.

7. Use in-person sessions to
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D.	Provide mechanism to connect individual or groups of faculty to resources and support

| 1. Departments should designate a faculty member (as part of their teaching or service assignment) or a TA or grad student to serve as a liaison and concierge to address both tech and instructional issues. | The Center for Teaching and Learning is acting as the hub for pedagogical support<br><br>Languages have the Anderson Language Technology Center (ALTEC) for support. | 1 - Technology TA for each unit to offer one-on-one and group assistance during the progression of the semester.<br><br>1 - CTL or OIT, and ASSETT could provide training and support for department liaisons. | |
| --- | --- | --- | --- |

E.	Develop departmental communication plans

| 1. Create departmental methods for information sharing, e.g., through a Canvas course, a shared Google Drive folder, or a team in Microsoft Teams.<br>Create ongoing departmental processes or procedures that the technologies can support. | For the sharing of expertise and efforts, the Discipline Based Education Research (DBER) group |
| --- | --- |

| at the beginning of the semester. Consider introducing them to students once early in the semester.<br><br>2. Create contingency plans for in-person and synchronous course activities.<br><br>3. Accessibility: Where possible, use offer an option for electronic textbook resources and [Open Educational Resources](#).<br><br>4. Know that all classes will be remote or online after Thanksgiving break.  Plan for final exam to be administered before break or given remotely or online. | 1 - Plan to [give a backup instructor shared access](#) to your course in Canvas. | over a course under overload conditions. | |

B.      Define requirements at the departmental level

| 1. Develop plans for required courses and degree requirements that take into account how course offerings may have to be adjusted for Fall 2020.<br><br>2. Consider how to adapt | Use [Cidilabs](#) (Canvas integration) to create a course template in Canvas that your department can use. | 1 - Engage with OIT and ASSETT for unit-specific remote teaching and learning technology training based on the faculty needs and interests within a unit. | Consider how quickly (and how) you will pivot between face-to-face and remote or online modes. Walk the students through those changes on the first day so they know what to expect. |

- ‹ ASSETT guide to [Planning for Remote Instruction in Eight Simple Steps](#) (by Joy Adams)
- ‹ Center for Teaching and Learning guide to [Remote and Online Teaching](#)
- ‹ Quality Matters [Emergency Remote Instruction Checklist.](#)


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