**UCSF School of Medicine**

**Technology Enhanced Education (TEE)**

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This is a resource created to help faculty identify alternative strategies for delivering face-to-face content in an emergency remote learning environment.

**Goals:**

* To provide UCSF course leaders and educators other options for face-to-face teaching
* Provide guidance on choosing teaching and learning strategies for remote learning
* To share a framework for implementing alternative teaching strategies at UCSF

**Guiding Principles:**

* Provide flexibility for learners, instructors and staff
* Empower learners, instructors and staff to be independent and nimble as possible
* Keep things as simple as possible
* Utilize existing UCSF applications and avoid introducing new tools/services
* Provide faculty, staff and learners with the necessary development, training and support

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| **Instructional goal or activity** | **Alternatives** | **Implementation** | **Resources /  information** |
| **Give a lecture in-person** | 1. Use previous recordings of a lecture (e.g., LectureCast from prior term) | 1. Link to MediaSite (LectureCasts) or video lessons in Kaltura  | Find on Ilios<https://curriculum.ucsf.edu/> |
|  | 2. Use and enhance previous recordings of a lecture (e.g., LectureCast) with quizzing | 2. Link to MediaSite recordings | UCSF Mediasiteemail to:**edtech@ucsf.edu** |
|  | 3. Use existing recordings of someone else's content | 3. Find and share relevant Open Educational Resources or MOOC content | CourseraEdXYouTubeother sources |
|  | 4. Lecture in an empty UCSF lecture hall, record as a LectureCast and share asynchronously | 4. Contact ETS to schedule MediaSite classroom recordings as needed | <https://edtech.ucsf.edu/>email to:**edtech@ucsf.edu** |
|  | 5. Host a live Zoom lecture | 5. Use Zoom to host a live meeting | <https://ucsf.zoom.us/> |
|  | 6. Host a live MediaSite lecture | 6. Contact ETS to set up a MediaSite livestream | <https://edtech.ucsf.edu/>email to:**edtech@ucsf.edu** |
|  | 7. Record a lecture in advance using Zoom and share it asynchronously | 7. Use Zoom or the KMS Go app and share the recording using Box, Kaltura, or media.ucsf.edu | <https://ucsf.zoom.us/> |
|  | 8. Record a narrated PowerPoint lecture in advance and share asynchronously | 8. Insert audio narration into a PowerPoint slide using appropriate software and share using Box or CLE | <https://ucsf.zoom.us/> |
|  | 9. Pre-record audio files or podcasts for audio-only lectures and share asynchronously | 9. Use Zoom, computers, and mobile devices to record audio, then share using podcasting services, Box, Kaltura, media.ucsf.edu, or CLE | <https://ucsf.zoom.us/> |
| **Facilitate small groups in-person** | 1. Host live Zoom meetings | 1. Host individual several simultaneous small group Zoom meetings | <https://ucsf.zoom.us/> |
|  | 2. Assign asynchronous independent learning activities (e.g., case studies, readings, assessments, and study guides) | 2. Students complete work independently and submit assignments and assessments using CLE | <https://courses.ucsf.edu/> |
|  | 3. Assign asynchronous group learning activities (e.g., group discussions, projects, presentations, and assignments) | 3. Students interact using Zoom, Slack, CLE, Box and other tools, then submit group assignments using CLE or give group presentations in live Zoom meetings or record video presentations and submit to platform | <https://ucsf.zoom.us/><https://slack.com/><https://courses.ucsf.edu/><https://ucsf.app.box.com/> |
| **Assess learning outcomes: in-person exams, course evaluations, and in-person proctoring** | 1. Create online exams and course evaluations | 1. Use CLE, Qualtrics, or PollEverywhere | <https://courses.ucsf.edu/><https://ucsf.qualtrics.com/> |
|  | 2. Provide online proctoring | 2. Use Zoom or an online proctoring service | <https://ucsf.zoom.us/> |
|  | 3. Use CLE to minimize cheating | 3. Use randomized questions/answers, multiple question banks, multiple versions of quizzes, or have students confirm in CLE that they will not cheat | <https://courses.ucsf.edu/> |
| **Offer in-person office hours and feedback/coaching sessions** | 1. Host live interactive office hours | 1. Use Zoom, Slack, text messages, or CLE tools (e.g., chat, forums, messages, whiteboard) | <https://ucsf.zoom.us/> |
|  | 2. Host live audio-only office hours | 2. Use Zoom (audio-only) or phone calls | <https://ucsf.zoom.us/> |
| **Facilitate in-person Anatomy Lab activities** | 1. Provide study guides that include learning activities (e.g., readings, assessments, self-assessments, and anatomy videos) | 1. Use CLE to host study guides and learning activities | <https://courses.ucsf.edu/> |
|  | 2. Complete virtual anatomy simulations | 2. Provide access to anatomy simulations that are offered online |  |
|  | 3. Loan out VR headsets loaded with anatomy apps | 3. Procure headsets, prepare them, send them to students, and provide training and maintenance |  |
|  | 4. Buy inexpensive headsets for all students, they use their phones and designated apps | 4. Procure headsets, prepare them, send them to students, and provide training and maintenance |  |
| **Facilitate in-person micro lab activities (PHD)** | 1. Provide study guides that include learning activities (e.g., readings, assessments, self-assessments, and videos) | 1. Use CLE to host study guides, videos and learning activities | <https://courses.ucsf.edu/> |
| **Facilitate ongoing interaction** (student-student; student-faculty; faculty-student)  before, during, and after class sessions | 1. Use remote learning strategies for increased engagement | 1. Use proven remote learning engagement strategies in classes | Best Practices:<https://meded.ucsf.edu/sites/meded.ucsf.edu/files/Best_Practices_Remote_Learning_UCSF.docx><https://meded.ucsf.edu/tee/toolkit> |
|  | 2. Use collaborative apps | 2. Use apps like Microsoft Teams, Slack, and CLE tools  (e.g., chat, forums, messages, whiteboard) | * Office 365
* FlipGrid (asynchronous video or audio message)
* Pear Deck - built in formative assessment <https://www.peardeck.com/googleslides>
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| **Provide in-person clinical simulations (Standardized Patients and Kanbar)** | 1. Provide case-based simulation instruction* I-Human (new to UCSF)
 | 1. Provide access to training and support documentation | <https://www.i-human.com/> |
| **Provide new ways to deliver live lecture content** | 1. Flip the classroom | 1. Pre-record content using Zoom or other software. Host in Box, link to content from Ilios session page
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| **Facilitate Peer-to-Peer teaching** | 1. Connect peers via live Zoom meetings | 1. Use Zoom meetings | <https://ucsf.zoom.us/> |
|  | 2. Assign asynchronous peer learning activities (e.g., discussions, projects, presentations, and assignments) | 2. Students interact using Zoom, Slack, CLE, and other tools, then submit group assignments using CLE or give presentations in live Zoom meetings or record video presentations and submit to platform | See resource links above |
|  | 3. Use peer review approaches | 3. Peers are guided in providing feedback to each other using CLE, Office 365 or other tools | Office 365 |

**Resources**

[Best Practices for Remote Learning at UCSF](https://meded.ucsf.edu/sites/meded.ucsf.edu/files/Best_Practices_Remote_Learning_UCSF.docx%22%20%5Ct%20%22_blank)

[UCSF School of Medicine Remote Learning Toolkit](https://meded.ucsf.edu/remote_learning)

[UCSF School of Medicine Zoom Guides](https://meded.ucsf.edu/ZOOM)