

## Department of Mechanical Engineering Guidelines on Preparation for Disruptions from COVID-19

The Department of Mechanical Engineering must be prepared in the event that COVID-19 becomes an imminent threat to the health of students, faculty, and staff. The University will continue to monitor the situation and will notify colleges and departments when action is required. The guidelines listed below address multiple possible courses of action and how the department should respond to ensure the health and safety of students, faculty and staff, and ensure that students will continue to make progress towards completion of their courses and degree programs.

---

### ***Possible Scenarios***

---

#### **Rolling disruptions (campus is open, but students, faculty, and staff reduce attendance)**

- Students should not be penalized for missing class due to illness, being under quarantine, or experiencing anxiety about contagions that interferes with their ability to function in class.
- Instructors should attempt to accommodate students as best they can and according to what is feasible. Providing online alternate forms of instruction, testing, rescheduling, or providing makeup assignments and tests, are acceptable. Avoid issuing “incomplete” grades at the end of the semester so as to not disrupt the student’s path to graduation.
- Faculty who are ill or quarantined should notify the department office as soon as possible. If absence is less than a week, and if health permits, follow guidelines for “short-term disruptions” below. If absence exceeds week and if health permits, follow guidelines for “medium-term disruption” below, or a substitute instructor can be arranged with assistance from the department.

#### **Short-term disruption (classes canceled for week or less, current case for 3/12 through 3/15)**

- Notify students immediately by email or through Canvas of cancellation of on-campus classes and what they should expect with regard to deliverance of course materials, etc.
- Post readings, assignments, and/or lecture material online, or makeup material when classes resume.
- Postpone quizzes and tests until classes resume, and accept assignments online.

#### **Medium-term disruption (classes canceled for 2-4 weeks, March 23 through April 19, 2020)**

- Notify students immediately by email or through Canvas of cancellation of on-campus classes and what they should expect with regard to deliverance of course materials, etc.
- Post readings, assignments, and/or lecture material online.
- Post quizzes, tests, and accept assignments online. Low stakes quizzes and assignments can be dropped with greater weighting put on remaining quizzes and assignments.

### **Long-term disruption (classes canceled for more than a month up to end of semester)**

- Notify students immediately by email or through Canvas of cancellation of on-campus classes and what they should expect with regard to delivery of course materials, etc.
  - Post readings, assignments, and/or lecture material online.
  - Deliver quizzes, tests, and accept assignment submissions online.
  - Disruptions affecting final exams need to follow the College Plan B Continuity Plan (see below under College of Engineering and Computer Science Plan B).
  - Despite long-term disruption, the course must continue to offer instruction in a manner that students can meet the learning outcomes described in the course syllabus. Courses must continue to meet expectations of subsequent courses, degree requirements, and subsequent degree programs and professional schools.
- 

### **Recommendations for Preparing for Cancellation/Closure and Implementing Alternate Formats**

---

Faculty should be prepared on short notice to operate remotely in the extreme event that the campus is closed to all but essential personnel. Such preparation should include:

1. Taking your laptop/iPad home with you every night unless you have a computer at home.
2. Having a copy of all course material backed up on a cloud service (e.g., Box, iCloud, DropBox, GoogleDrive, etc.).

Switching to online formats in short notice will be challenging depending on the type of course. The following are specific recommendations for lecture, labs, and team projects.

#### **Lectures**

1. **Canvas.** Canvas is the most convenient and accessible means of delivering online instruction and evaluation for lecture course material at CSUN. Lectures can be posted in PDF, PPT, Keynote, or other formats. If using Keynote or PPT, you can annotate your lectures with audio recordings. Quizzes, tests, assignments can also be distributed and submitted online via Canvas.
2. **Zoom.** You can deliver lectures via Zoom Video Conference and present your lectures as you would in class and also interact with students via audio or chat. See <https://www.csun.edu/it/zoom> for more information on Zoom. As soon as possible and before March 23<sup>rd</sup>, conduct a trial Zoom lecture with your students so that everyone is comfortable. Note that Zoom is compatible with nearly any device that your students have with them.
3. **Lecture Capture.** If you have used lecture capture in your course within the last year, download your lectures. You can store them in CSUN Box and send links to the videos directly to your students via email or post links in Canvas. If you have not used Lecture

Capture, then perhaps another instructor who has taught the course with Lecture Capture may be willing to download and share their videos.

4. **Record and post lectures.** CSUN has a license to [Camtasia](#) software for capturing and editing presentations. Lectures can be posted in YouTube or in CSUN Box.
5. **CSUN Box.** Videos, lecture material, assignments, syllabi can be posted in Box and shared with your students. You might consider creating a folder that will contain all of the materials you use in your course in the event you need access from home, or you need to share the material with a colleague in the event you are incapacitated.
6. **Email.** Materials may be delivered and submitted by email but may not be feasible for some classes.

### Labs

It may not be possible to deliver the same learning experience online as we would expect in the hands-on learning environment in our labs especially in regard to ME 335L, 435L, and 491 labs. However, we must still provide instruction that permits students to meet the learning outcomes for our courses and programs. Here are some suggestions:

1. **Data from previous semesters.** Distribute instructions and real data from previous semesters, or use data that were collected previously.
2. **Video demonstration.** If campus is open but classes are closed, labs may be demonstrated by an instructor and streamed (via Zoom) or video recorded and distributed via Canvas, Box, or YouTube. There may be demonstrations already posted online on YouTube or other video services.
3. **Textbook publisher digital content.** If you require a textbook in your class, you may already have access to interactive exercises and lessons that may cover the learning objectives of your lab. Consult with your publisher representative on what may be available. The department office can assist in connecting you with that person if you do not have contact information.
4. **Primary literature.** Have students read and comprehend primary literature that incorporates techniques and concepts used in labs.

### Senior design projects

It is okay for students to work in small groups, say 3 – 4, on a specific portion of the project in the labs. However, large team meetings and group work consisting of a larger number of students should be avoided. If it is not possible to assemble the complete project without a large group of students working simultaneously, then the project grade may be based on the contributions of each specific sub-team. Students who do not feel comfortable coming to campus should not be penalized – consider assigning alternate tasks to those students.

### Office hours and student meetings

Office hours can be handled through Zoom, or other alternative means. Face-to-face meetings with an individual graduate or undergraduate student can be arranged, with mutual agreement of faculty and student, as long as proper precautions are taken. Similarly, mentoring and working with students in a lab setting may be arranged for small groups, say 3 students.

*College of Engineering and Computer Science Plan B*

---

Approved 10/23/2019

*Critical Function: CLASSROOM INSTRUCTION AND FINAL EXAMS*

*Planning Responsibility:* Robert Ryan, Special Assistants to the Dean

*Vulnerability:* Loss of instructional faculty member due to illness or death

*Planned Response*

*i. How will instruction continue? // iv. What is the plan if a faculty member is not available to teach their classes?*

The Department has the primary responsibility for this contingency. If the absence is short term (< 2 or 3 weeks), the Department Chair will attempt to make temporary arrangements with a substitute (either the Chair or a willing F/T faculty member). If it is a longer term situation, the Chair will arrange to hire a substitute from their P/T faculty pool, in consultation with the DFO and Dean.

*How will this be communicated to students, faculty, and staff? What different means of communication will be used?*

The Department Chair (or substitute instructor, if applicable) will update the students verbally in the classroom. Emails to students' @my.csun.edu addresses will be used to supplement the communication in the classroom. Email will also be used to notify affected staff, faculty, and administrators.

*Vulnerability:* Loss of access to campus for final exam week due to terror threat

*Planned Response*

*i. How will instruction continue? How will this be communicated to students, faculty, and staff? What different means of communication will be used?*

In the event of an emergency such as a terror threat that would require cancellation and rescheduling of examinations, it is anticipated that there will likely be a bulk arrangement that will work for the majority of the students affected. The remaining fraction will have to be accommodated on a more individualized basis. The following are options for accommodating rescheduling of examination sessions in response to emergencies that may arise.

Certain faculty in CECS have restructured their courses so that there is no final examination and instead multiple exams are administered throughout the semester. The scheduled final exam time is used for reports, presentations, and other non-test activities that are already integrated into the course, and can be easily moved online or moved to an alternative date.

Instructors that do require an in-person final examination will reschedule the final exam off campus using public facilities such as local libraries, high schools, conference rooms, etc. This becomes a "field trip" and students must sign a release form to release liability on the

March 13, 2020

university to participate. Faculty in conjunction with the university staff will be responsible for making the arrangements for the offsite examinations.

Instructors that are able to provide online exams will use the campus LMS Canvas to make the final examination available electronically. This can be as simple as using a PDF version of the paper test which the students download, work on and submit their results using quiz question fields or upload a scanned version of their completed assignment.

If a campus closure during final exam week is announced by University Administration, an email to all CECS faculty and staff will be sent by the Dean's Office to remind faculty of the options described above. Email will be the primary mode of communication to make arrangements for the alternative exams, and to keep students informed of these arrangements.

**Vulnerability:** Significant Natural Disaster (e.g. earthquake)

*Planned response*

It is assumed that general information about the status of the campus would be available to administrators, faculty, students, and staff via text and cell phone messages, as well as to the general public from updates to the campus web-site. This would include details related to the physical security of the campus. If the campus is determined to be safe, secure, and open, then the following steps would be taken.

*i. How will instruction continue? How will this be communicated to students, faculty, and staff? What different means of communication will be used?*

The Dean's Office would be responsible for coordinating communications to College faculty, staff, and students, with the assistance of the College staff in Information Systems. The primary communication mode to students would be email via their CSUN addresses. If the campus is secure and its physical spaces are available, then courses would continue as usual. Departments would be responsible for making special arrangements if a faculty member is unable to travel to campus due to personal circumstances related to the disaster.

*ii. What if classroom physical space is not available? Are faculty trained to teach online if necessary?*

Most College faculty use Canvas for distributing materials related to instruction in lecture courses, such as assignment descriptions, course syllabus, etc. In some cases PowerPoint versions of lectures and additional resources may be available on Canvas. Consequently, for lecture courses, the Canvas course site, supplemented with emails from the professor as necessary, should be sufficient for continuation of instruction. If the physical space is unavailable for an extended period of time, alternative arrangements would have to be made for exams, and possibly for some minimal amount of face to face lecture time.

Laboratory courses present significant challenges if their physical space is not available. Assignments in some lab courses (e.g. computer science labs, computer-based engineering labs)

March 13, 2020

could possibly still be done with student laptops or desktops. Laboratory courses which require specialized equipment may not be able to continue until the space becomes available again.

*iii. What if an alternate location is required for classes? How will this be communicated to students, faculty, and staff? Are there specialized equipment needs to plan for?*

For lecture courses, identifying alternate locations should not be too difficult, depending on the scope of the disaster. Communication of details to students, faculty, and staff would be sent via CSUN email. The challenge of keeping laboratory courses operational has been noted in the previous paragraph. Department Chairs and relevant faculty would have to make a determination for each laboratory course.

*iv. What is the plan if a faculty member is not available to teach their classes?*

See above in section related to illness or death of a faculty member.

*v. Does the Dean's office have copies of key department documents, in multiple mediums, both on and off campus, such as: copies of prior years' class schedules, class rosters, grade grievance information, teacher certification pools, schedule of classes, department rotation schedules, entitlement/order of assignment lists, lab supply requisition lists, faculty specialization lists and lab restocking lists?*

Campus resources such as SOLAR and Canvas have most of the student information required to support instruction and basic advisement activities.

Large computer files for student projects, software images, CECS financial reports, and SOC reports are stored on shared drives housed on College servers in the MDF area, and these are backed up on tape daily and stored off-site. The College's IS group handles this responsibility.

The Engineering Shop ensures that hazardous materials are stored in proper locations so that any resulting contamination from the disaster is contained in specified areas.

Departments are responsible for maintaining security of key records such as course syllabi, student email lists, faculty assignments, faculty hiring pools, and contact information for faculty. The standard practice is to store such information on flash drives, one for the Department Chair and one for the Office Manager, and store off-site. Some of this material is also stored on CECS shared drives.

The Dean's office stores information such as key telephone numbers for Department Chairs and staff in multiple locations (flash drives and on CSUN Box). As noted above CECS financial reports and SOC reports are stored on shared drives which are backed up regularly.