NOTE: The following reports contain recommendations preliminary to UM’s decisions regarding AY 2020-21. These recommendations were considered in reaching final decisions, but it is likely that not all recommendations will be adopted as proposed.

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Coordinating Committee on Instructional Planning
Final Report
May 29, 2020

Executive Summary

The full Coordinating Committee on Instructional Planning met 6 times in past three weeks, with sub-committees meeting in addition to our full team meetings. We worked in those different sub-committees and individually to gather data, brainstorm options, and draft recommendations. We began with a fair bit of skepticism about what was possible, but through our work together came to the shared conclusion that we should recommend a residential semester in which we employ three modes of instruction: in person, remote, and hyflex, depending on instructional goals and safety considerations. Using all three modes will provide the best possible experience for our students and allow us to adopt nimblly remote-only instruction if the trajectory of the virus prevents us from safely gathering and forces us to return to a stay-at-home order. Our overarching recommendations are:

- We can, and should, offer a public-health-informed, in-person semester for pedagogical reasons. We are better together, even with the constraints we may need to put in place for safety reasons.
- We can, and should, develop strategies that prioritize high quality and robust student learning experiences in the safest context possible.

Developing those recommendations further, we offer 11 complementary recommendations intended to support the goal of providing safe, high-quality, and robust teaching and learning experiences that attend to the well-being of our students, faculty, and staff. These are:

- Recommendation 1: Restructure the academic calendar
- Recommendation 2: Provide robust building & classroom safety measures
- Recommendation 3: Reduce density of in-person meetings according to space consideration
- Recommendation 4: Construct alternating schedules for students to attend in-person and remote classes in the interest of reducing class sizes
- Recommendation 5: Recalibrate pedagogical goals and outcomes in relation to new opportunities and limitations
- Recommendation 6: Provide ample and specific support for and training in technological tools and pedagogical modes for hyflex and remote instruction
- Recommendation 7: Discourage use of cumulative final examinations
- Recommendation 8: Use Pass/NRC grading for Fall 2020 and possibly for Winter 2021
- Recommendation 9: Provide additional support to ensure that students can access learning opportunities equitably
- Recommendation 10: Provide opportunities and processes for instructors to be able to apply to teach in entirely remote formats because of concerns about physical or mental well-being,
- Recommendation 11: Continue modified use of course evaluations for instructors

Committee Charge:

The primary objectives of the Coordinating Committee on Instructional Planning as laid out in our charge were to:

1. Gather information about how these types of instruction have fared under 'emergency remote' modes in Winter 2020
2. Develop a set of best practices and address instructional questions for these courses, including overarching issues that span all instructional types and will allow courses to be nimble in ability to pivot between restricted in-person and remote instruction
3. Ensure all instructional planning prioritizes the delivery of instruction in an equitable and inclusive manner
4. Identify needs and recommend approaches to faculty outreach and engagement, in light of the distributed nature of instructional work
5. Consider classroom and space utilization issues for restricted in-classroom
6. Liaison with two other instruction-focused committees

Committee Membership

Chair:

Elizabeth Moje, Dean, School of Education; Arthur F. Thurnau Professor; George Herbert Mead Collegiate Professor of Education and Professor of Education, School of Education

Membership:

- Sara Blair, Vice Provost for Academic and Faculty Affairs, Office of the Provost; Patricia S. Yaeger Collegiate Professor of English Language and Literature, Professor of English Language and Literature, LSA
- Linda Chatters, Paula Allen-Meares Collegiate Professor of Social Work, Professor of Social Work, School of Social Work; Professor of Health Behavior and Health Education, School of Public Health
- Monika Dressler, Academic Technologies Services Director, LSA
- Lisa Emery, Senior Associate Registrar, Office of the Registrar
- Thomas Finholt, Dean and Professor of Information, School of Information
- Matthew Kaplan, Executive Director, Center for Research on Learning and Teaching
- Peggy McCracken, Mary Fair Croushore Professor of the Humanities; Professor of French, Women's Studies and Comparative Literature, and Director, Institute for the Humanities, LSA
- Fadi Musleh, Project Senior Manager, Office of the Provost and EVPAA
- David Wooten, University Diversity and Social Transformation Professor, Alfred L. Edwards Collegiate Professor, and Professor of Marketing, Ross School of Business

Administrative Support:

Michele Semones, Assistant to the Dean, School of Education

Committee Approach to the Charge

The graphic shown here represents a model of our committee’s approach to our work. We recognized that our focus was to be on instructional planning, which sits at the heart, or core, of this model. For us, high-quality, rigorous, and robust teaching and learning experiences are the end goal of our work, and we want to be sure that whatever we do is offered at the very highest level possible in the safest fashion possible. We want our students to have the best Michigan education possible, even if that education has to be remote or hybrid in enactment method.

To that end, however, we needed to consider all the dimensions that wrap around high-quality instruction, namely, safety, scheduling and timing of classes, distribution of students safely in any in-person classes, and space use. It was not our task to determine safety practices or space use, per se, but we could not think about teaching and learning without addressing all of these other considerations.
The diagram attempts to capture the nested and yet interrelated and intersecting nature of our decision making/guideline offering for the academic year 2020-2021. If we imagined high-quality teaching and learning at the core of our work, then we had to consider the layers of decision making that impinge on our planning decisions. Each of these five layers can be considered a layer of work. Safety as articulated in public health guidelines will determine virtually everything else we do, although, of course, how we adjust our calendar, use our space, re-imagine our class schedule will also shape how safe we are. For example, we may decide to adjust the academic calendar and then the virus may thwart our plans and peak again just as we are planning to start back to campus. That safety concern would shape what we ultimately enact as our calendar. Similarly, we might construct an academic calendar that alternates attendance in a way that shapes access to space. Alternatively, space determinations might have an impact on how we have to adjust course meetings within the overall calendar. Each of our recommendations and ultimate decision decisions will have an impact on the extent to which we can offer high-quality teaching and learning experiences and on the approaches—in-person, remote, or hybrid/hyflex—we take to construct such experiences.

Thus, to conduct our analysis and build the following sets of principles, we broke these “levels” apart and drilled down. It was incredibly difficult to separate these considerations out for analytic purposes, and yet, we had to do so, with the goal of coming back with a systems approach to the guidelines we offer. In the final analysis, we kept this systems approach in mind as we articulated principles and recommendations at various levels.

**Overarching Recommendations**

- We can, and should, offer a public-health-informed, in-person semester for pedagogical reasons. *We are better together*, even with the constraints we may need to put in place for safety reasons.
- We can, and should, develop strategies that prioritize high quality and robust student learning experiences in the safest context possible.

**Working Safety Assumptions**

- The State of Michigan will not be under a stay-at-home order from Aug 2020-May 2021.
- Testing, contact tracing, and PPE will be available and used according to public health guidelines.
- On-campus housing and transportation safety measures will be in place.
- Campus space restrictions, physical distancing guidelines, and regular cleaning measures will be developed and monitored on campus.
- We will educate students and faculty members in the culture of safety and respect and will expect them to participate in this “new social contract.”
- We will develop protocols to consider health and safety concerns of faculty members and student regarding participation in person learning experiences.
- Metrics will be available to monitor the course of the pandemic (MI Safe Start Plan).
- We will develop alternative plans to allow for nimble responses to changing virus scenarios.

**Principles Guiding the Recommendations**

We want everything we plan to be in the service of:

- Providing high-quality and robust learning experiences while keeping all members of the campus community as safe as possible.
- Creating a welcoming environment especially for new students of all levels/units.
- Committing to supports for managing the stress and mental health issues related to the pace of the semester and the removal of official breaks in the semester.
• Providing no fewer than five in-person academic experiences for every residential undergraduate students every week and no fewer than three in-person academic experiences for every residential graduate student every week. N.B.:
  o Our undergraduates average 11 course meetings per week and our graduate students average 6 course meetings per week in a typical semester.
  o Our goal represents a minimum number.
  o This principle includes experiences beyond courses.
• Attending to diversity, inclusion, justice, and equity considerations as we offer high-quality, robust teaching and learning opportunities.

Preliminary Recommendation Categories

1. Academic Calendar
2. Building & Classroom Safety Measures
3. Class Sizes
4. Alternating Attendance Practices
5. Pedagogical Re-Calibration for Hybrid and Remote Teaching and Learning
6. Necessary Technology and Pedagogical Supports for Robust Hybrid Teaching and Learning
7. Final Examinations
8. Grading Policies
9. Accessibility for Students
10. Faculty and GSI Participation
11. Course Evaluations

Scenario 1: In-Person/Hybrid/Remote Teaching Preliminary Recommendations

Recommendation 1: Restructure the academic calendar to reduce the total time on campus and to avoid travel to and from campus.

Fall Options Considered

• Late start (Oct) and offer a business-as-usual end of semester (late December)
• Early start (mid-Aug) and end of semester at Thanksgiving break
  o Would require Saturday instruction
• Start as planned (Aug 31) and completely conclude the semester at Thanksgiving
• Start as planned (Aug 31) and end in-person instruction at Thanksgiving, with finals in first week of Dec
• Start as planned (Aug 31) and end in-person instruction at Thanksgiving, with one week of instruction in first week of Dec, and exams/final projects until mid Dec
• Staggered attendance of different groups across the semester

In the end, we landed on the recommendation of a regular start, with in-person concluding before Thanksgiving break and continuing remotely for 7 days after the Thanksgiving break ends. This schedule allows us to meet HLC and financial aid considerations. In addition, we considered specific strategies and suggestions designed to achieve the goal of providing a robust and safe in-person education experience, as described below:

• Distribute students across orientation sessions to reduce the number of people on campus at any given time
• Prioritize new students for on-campus orientations and as-safe-as-possible in-person experiences
• Distribute orientation sessions to buildings across campus and stream orientation activities intended for whole groups
• Make use of the reality that graduate students typically relocate to Ann Arbor by mid-August
Develop processes to ensure that returning students come to Ann Arbor after the Labor Day holiday.
Deliver only remote instruction to returning students for the first week of courses.
Re-orient the calendar to reduce travel to and from campus (cancelling breaks; not returning after Thanksgiving; late start in January; no spring break).
Craft a calendar that allows for variation among professional schools.
Establish principles and procedures for faculty and student participation in in-person instruction.
Encourage remote work for all staff members who can work from home.

### Fall Academic Calendar Recommendations

- **Fall orientations** begin early and in stages/distributed spaces:
  - Week of **Aug 17**: All new graduate students rotate through orientations in units (whole-campus Rackham orientation offered remotely).
  - Week of **Aug 24**: All new undergraduates (freshman and transfers) staged throughout the week with students distributed across all campus buildings.
  - Week of **Aug 31**: Classes begin; returning students take all courses remotely.
  - Week of **Sep 8**: Returning students come to campus for in-person instruction as available.
- **Fall courses** start as planned on Aug 31, 2020 and proceed five days/week until Fri, Nov 20, **with no breaks**, except Labor Day = 62 days of instruction (12 weeks and 2 days).
  - Recommend Nov 20 end date due to the need for students to pack for an extended absence from campus and due to the aggressive pace of instruction with no breaks. We believe this decision supports concerns over students’ mental health in such a fast-paced semester. Moreover, students are likely to leave on that Friday (rather than attend for 2 days of the week), and this decision also reduces a weekend spent on campus.
  - Dismiss everyone except winter graduates and professional students from campus on Nov 20:
    - Question remains around what to do with these students if they travel over the Thanksgiving break.
    - Question remains around the feasibility of a winter commencement. However, the time period between Thanksgiving break and the scheduled commencement (Dec 20) allows the full 14-day cycle necessary for self-isolation after travel, thus reducing the risk if some kind of commencement ceremony is offered. (N.B. Most of the winter graduates are likely to live off campus and might remain in the community anyway.)
    - Remaining students do not return after Thanksgiving break, but instruction resumes remotely on Nov 30 and continues to Dec 8 (one week) = 66 days of instruction (13 weeks and 1 day).
- **Exams/final projects** conclude by Dec 16; grades due no later than Dec 22.
- **Instructional goals** from Aug 31-Dec 30, 2020:
  - Large lecture courses are held remotely.
  - In-person experiences are on a alternating schedule (TBD).
  - Every student will have a defined minimum number of in-person learning experiences throughout the semester (not necessarily courses):
    - Equivalent of at least 5 in-person learning experiences per student per week for all newcomers and, if possible, for seniors.
    - Equivalent of at least 3 in-person learning experiences per student per week for all returning students.
  - Individual or small-group student-student or faculty-student mentoring activities for all students to provide connective activities in addition to courses.

### Winter Academic Calendar Recommendations

- **Classes resume** Jan 19, 2021:
  - Allows 2 weeks of time away from classes and 2 weeks of self-isolation and testing before people return to campus.
o Allows faculty members and GSIs time to plan for a new round of hyflex, remote, and in-person instruction
  o Allows for cancellation of spring break (see next bullet)

- Classes continue through Apr 9, when in-person classes conclude = 12 weeks, or 59 days of class. **There is no spring break.**
- All students except graduates and professional students leave campus on Apr 9
- Remote instruction for all students continues from Apr 12 to Apr 20 (one week and 2 days) = 13 weeks and 1 day, or 66 days of class.
- Final exams held remotely from Apr 20-28; grades due May 1
- Dependent on the course of the pandemic; if public health guidance supports in-person activities, then students may stay on campus to conclude the semester.
- Instructional goals remain the same as in Fall semester, unless changes in the course of pandemic allow for a more robust return to in-person instruction.

**Remaining Details to be Addressed**

- Where would students self-isolate at the start of each semester?
- What do move-in/move-out days look like? When does move-out happen?
- Is it worth aiming for some sort of on-campus winter and spring commencement exercises (not necessarily all graduates in one place)?
  o Winter Commencement, 12/20, remote, streamed from Crisler, in-person for units
  o Students who return after Thanksgiving, self-isolation for two weeks, additional testing
- What is the alternating schedule?
  o Likely to be unit-specific, but to run within the boundaries of the existing schedule
- Costs of safety measures and instructional supports: What are they and who bears them?
- How to vet faculty & GSI participation in person
- How to teach in this environment . . . Recommendations for strategies (in development) are presented in what follows

**Recommendation 2: Provide robust building & classroom safety measures**

To ensure safe spaces for learning, we recommend that:

- Building access be keyed to students’ M-Cards according to class schedules, *if technically possible*. This move would make the process of health monitoring in each building more manageable and would avoid any risk of equity issues regarding access to the building. There are, however, some technical challenges to this recommendation:
  o Building access is a manual process to grant access to buildings. A building-based staff member has to program individual UMID/MCards into specific doors of the building. This is a massive endeavor to enter 10s of 1000s of registrations per building or door, together with never-ending drop/add changes.
  o In addition, there are limitations to the number of “clearances” an individual can have on campus.
  o We are studying what is possible in terms of changes to these policies.
- If building key access limits are not possible, then buildings should remain locked and access should be managed via designated entrances and staff/screeners.
  o Access to reach other services (student services, computer labs, printing, etc.) within buildings will need to be explored.
- Building undergo daily deep cleaning by custodial crews
- Hand sanitizer stations are installed @ every classroom entrance
  o Students and instructors are enculturated to sanitize like medical personnel
- Sanitizing wipes be made available in every class
  o Students and instructors wipe down “equipment” as they would in a public exercise room
Masks be worn everywhere, as long as public health guidance recommends them, and we recommend transparent masks where needed to accommodate deaf and hard of hearing (face shields have also been recommended)

Students, staff, and instructors engage in physical distancing practices; adherence to 36 sf/person guidance

Instructors assign seating (for contact tracing)

Recommendation 3: Reduce density of in-person meetings according to space considerations

- All classes of 50 or more students will be held remotely
  - Discussion sections in person subject to space availability and to alternate scheduling

- All classes of 10 or fewer students will be held in person, subject to space availability following 36 sf/person guidance

- Units should evaluate what components of courses are most appropriate asynchronously, synchronously online, or in-person on-campus instruction, and which courses should have priority scheduling into limited classroom space under new social-distancing classroom capacities.
  - Refer to “Typology of Classes” matrix in Appendix A for considerations for in-person and remote activities. This includes recommendations based on class format, pedagogical goals, learning activities, importance of in-person community building, etc. The type of course also helps determine the type of classroom that would be required for on-campus in-person instruction (auditorium with social distancing, circular discussion seating, classrooms with specialized technologies) and the types of resources needed for successful instructional experiences. Those decisions then provide direction on the level of professional development for faculty and GSIs, tools required for student activities online and in-person, necessary staff support, and levels of assistance in course preparation.

- Every other class size will have an alternating attendance schedule
  - Assuming that classes of 50+ are held remotely and that classes between 10 and 50 are cut in half using alternating attendance practices (see below), we project that almost every class can be held in its currently assigned classroom space.
  - Although extensive modeling has not yet been completed, and may not be available until later in the summer, preliminary evaluation suggests that classrooms on the Ann Arbor campus could potentially accommodate some in-person course experiences while maintaining sufficient social distancing and limiting contact across large groups of students. The Provost’s Office, Registrar’s Office, and College of Engineering plan to expedite efforts to model various scenarios impacted by social distancing and class room and room size changes. This work will need to be completed in the coming weeks to help better inform the next level of recommendations. The exploratory work outlined below considered Fall 2019 classes held in general-purpose classrooms and auditoriums on the Ann Arbor Central, Medical, and North Campuses. We did not include at any other room type like studios, labs, or computer labs.

- Preliminary evaluations also assumed social distancing capacities using 36 sq ft/student for the basis of this analysis. Larger social distancing measures using 144 sq ft/student reduces the overall capacity of general-purpose classrooms so significantly, it would not be possible to schedule any significant number of classes for in-person instructional experiences.

- Larger classrooms and large classes (50 and above) are most affected by new social distancing measures, and space to accommodate classes of this size with social distancing in place would not be available to meet demand.

- With preliminary examination assuming 36 sq ft/student, it appears as if it may be possible to schedule classes with enrollment of 1-50 students, if the in-person experiences were limited to half of enrolled students attending an on-campus class-session. This could be accomplished with half the students attending remotely for the entire semester or by alternating attendance with one half of the class attending on one day of the week and the other half of the class...
attending on another day. If classes do not alternate attendance, then we expect that nearly 50% of the classes have space issues. However, we do not anticipate that we have enough classroom space for all 1-50 person classes to meet in person at full capacity (roughly 40% of classes). Further modeling could help provide guidance on attendance policies and space availability.

- Schools/colleges are strongly encouraged, where feasible, to increase or lift individual class size enrollment caps for courses that are fully remote, while maintaining pedagogical effectiveness and student success and engagement.
  - Raising of class sizes for fully remote classes can provide the following benefits and flexibility to our students during an academic year that might be challenging or stressful:
    - Allowing students to take specific courses (whether required or not) and keep their academic career on track
    - Allowing students to adjust their schedules later in the summer to accommodate for yet-to-be-determined changes to Fall 2020 class offerings, particularly if classes they registered for are canceled.
    - Avoiding long wait lists for required or high-demand courses and increasing flexibility in student choice.
  - Units should think about and plan for the following, as they consider enrollment cap increases to classes:
    - What classes have long wait lists? What classes are required for degree program completion? What other classes could accommodate more enrolled students in a remote format?
    - Can the class format accommodate more enrolled students and remain pedagogically sound?
    - Could additional resources or a change in format allow for more students to register? (e.g. additional GSIs, peer facilitators, undergraduate assistants, graders).
    - Can the instructor support increased remote attendance? If not, what additional resources might be needed?
    - What impact would increasing enrollment in one course have on other course offerings within that department?

Recommendation 4: Construct alternating schedules for students to attend in-person and remote classes in the interest of reducing class sizes

The classroom setting is of particular concern in exposure to and transmission of the novel coronavirus, particularly given evidence of a much higher probability of infection within interior spaces. To mitigate this risk we recommend alternating class schedules, such that students and faculty alternate in person instruction with remote instruction.

The goal of alternating attendance is to reduce the number of bodies in any given classroom at any given time and to reduce screening time and lines at building entrances. We recommend that alternating plans be developed by units; with the following strong sub-recommendations:

- Planning is done at the unit level, rather than individual instructor
- Should try to consider the virus infection/incubation trajectory
- Must work within the existing schedule
- Must account for the fact that students take courses across units
- Must adhere to safe classroom space guidance (36 sq/ft/person)

Based on our research, we offer the following options for alternating (with pros/cons):

- Alternating days (One half of class attends in person on the first day; second half on the second day; etc. Other half attends remotely on “off” days). This approach is strongly discouraged due to the many different course scheduling arrangements across campus (classes are held one
day/week; two days/week; three days/week; mini-semesters, etc.). We might add unnecessary confusion for students to make so many shifts if they take courses across multiple days and multiple units where instruction follows different alternating schedules. It also makes cleaning more complicated because it increases the number of different people in buildings every day.

- **Alternating weeks** (one week in person for half the class; remote for other half; switch places the next week). This is strongly recommended because it follows the model of 5 days in in-person instruction and 9 days in remote/isolation, which follows the virus incubation period (thus allowing a student to realize that they have symptoms—assuming they are not asymptomatic—and quarantine themselves). It is worth noting, however, that the full effects of the 5/9 model only occur if every unit in which a student takes courses is following the 5/9 model and if the student has the same 5/9 arrangement for every course. In other words, if a student has Class A in-person in the first 5 days of a week, and then goes remote for Class A in the next 9 days, but has Class B in person during the Class A’s 9-day remote period, then the student is, effectively, not ever in “isolation” for the 9-day period that a 5/9 model assumes. The reality, of course, is that very few students will be in perfect isolation even if every unit could agree to the same 5/9 model and if every student’s experience was perfectly set to allow for 9 days of relative isolation. As a result, although this model has public health advantages in a perfect world, we promote it more for its ease in scheduling, rather than for any advantage it offers in terms of the virus incubation period. If there are ways to capitalize on the public health advantages, then this is even better.

- **4-10 (Weitzman model: four days in person, next week remote):** This approach is posited as having a particular advantage because, like the 5-9 approach, it follows the trajectory of the virus incubation period. However, the efficacy of the model depends on relatively tight constraints on the time period in remote instruction (i.e., isolation), and on the same assumptions articulated for the 5-9 model above. The Weitzman model loses its effectiveness if assumptions about isolation are violated, and unlike the alternating-weeks model (one in-person; one remote, which is effectively a 5-in/9-remote model), it is more difficult to manage because it is not as intuitive as “one week on; one week off.” That said, the Weitzman institute has studied the model, and it is worth considering. (See Appendix B for research and further modeling in support of the idea.)

- **Blocks** (where students rotate between in-person and remote instruction every two or three weeks). This model may have the advantage of being easier for students to manage because change is less frequent, but it has the disadvantage is that students are remote for long periods of time and thus the instructor-student relationship is more fragmented.

- Our committee will continue to explore additional models and make recommendations to units about how to ensure that the models employed in one unit do not disenfranchise a student whose course-taking crosses multiple units. It could be extremely difficult for students to organize themselves for course-taking if they had to navigate multiple models simultaneously. Our students are often over-scheduled as it is, and conflicting or confusing models could be stress-inducing.

**Recommendation 5: Recalibrate pedagogical goals and outcomes in relation to new opportunities and limitations**

Online or hyflex courses should include adjusted goals for student learning that recognize new learning environments. In the quick transition to online instruction in Winter 2020, many students felt overwhelmed by added asynchronous assignments and by expectations and requirements that did not acknowledge changed pedagogical tools; some instructors maintained courses’ original learning outcomes and others adjusted expectations. In Winter 2020 most instructors were focused on delivering class content and there was little time for deliberate recalibration of learning expectations and outcomes.

Recalibration is not about lowering standards, but about adjusting expectations—for both students and instructors—to take advantage of the affordances of online and hyflex courses as well as to accommodate their limitations. New forms of instruction might allow for experimentation, innovative ways of assessing student learning, or new modes of class participation.
Course goals should also take account of ways in which COVID trauma may constitute a barrier to learning. Pedagogy should be responsive to student needs, and may need to provide in new ways for disability accommodations.

Recalibration is imperative for Fall 2020. Units should provide strong guidance for instructors in relation to:

- Vetted expert information on online and hybrid learning
- Examples of innovative practices from U-M and elsewhere
- Learning disabilities and remote formats; COVID related stresses on concentration and learning abilities
- Instructors may need department-level guidance about expectations for courses in which assumptions are made about students’ prior access to foundational knowledge (i.e., courses sequenced on the basis of prior knowledge assumptions, such as most upper-level courses, but especially those disciplines who typically hold assumptions about knowledge building as linear and hierarchical, i.e., mathematics, some sciences, most professional school courses, etc.).

**Recommendation 6: Provide ample and specific support for and training in technological tools and pedagogical modes for hyflex and remote instruction**

The following principles for considering instructional goals and demands guided our thinking about the recommendations that follow each principle: followed by specific recommendations

- Fully robust online and hyflex teaching and learning experiences occur when support resources are organized and the information flow to consumers is effectively managed.
  - Resources to support online and hyflex teaching should be organized and curated in a way that makes them accessible rather than overwhelming, and the information flow about them should be managed.
- Resources for teaching and learning experiences should reflect a range of technological proficiency across the range of instructor experience. Pedagogical resources should have technological annotations that faculty can explore if needed.
  - Develop templates for Canvas course structures that allow for easy implementation of hyflex and remote instruction - recommend that units such templates for their contexts
  - Provide robust central support and unit support for IT and other functions
    - Coordinated training for relevant tools and/or platforms to aid remote instruction (e.g., zoom, canvas, etc.)
    - On-call support to minimize “downtime” when technological difficulties arise, especially in synchronous formats (an IT emergency helpline?).
      - Coordination across support units
      - Use Canvas announcements for tech updates - particularly for synchronous tools
  - Ensure that the equipment necessary for hyflex/remote is available across schools and colleges
    - “Recording” and VideoConference stations (converted conference rooms, other spaces - already being planned in COE and LSA)
    - Easy to use and more automated systems in classrooms (lecture capture with automated upload to Canvas; one-button start and stop lecture capture, streaming and two-way videoconferencing - already being planned in COE and LSA)
    - Advice and consultation for smaller schools (e.g., LSA advising; Stamps)
- Although social distancing measures of 36 sq ft/person for courses with enrollment of less than 50, together with reductions of in-person attendance, may provide the opportunity for some students to have quality on-campus learning experiences, instructors will still want to consider a blend of asynchronous strategies and synchronous activities. Instructors will also want to use technologies to record in-class activities and, where possible, to live-stream content from the on-campus class sessions. To ensure that students have access to effective learning, robust educational experiences should be accessible in multiple modes to accommodate a range of
needs and uses. In particular, this requires multiple strategies (synchronous, asynchronous, office hours) to ensure that students who are remote can participate fully in a course.

- Develop templates/case studies for remote and hyflex approaches (e.g., in-class instruction with a synchronous and/or asynchronous option and what that entails beyond simply turning a camera on), crowd-sourced from U-M or elsewhere and curated centrally.
- Collect examples of what has worked or not, lessons from faculty from the emergency remote shift (based on survey data, for example), lessons from course evaluations

- Remote or hyflex forms of course delivery offer opportunities for experimentation and development of instructional models that can enhance pedagogical methods in on-campus classes and for mentoring/supervising students who are off campus for internships and field placements.
  - Rethink the availability and roles for GSIs to support hyflex remote (including the need for GSIs in courses of 60-70 that might otherwise have only a grader)
  - Consider roles for undergraduate learning assistants to help with facilitation or tech monitoring (e.g., LSA BlueCorps, individual students in courses)
  - Prioritize community building. Recognized strengths of in-person instruction in terms of the learning experience and community-building will necessarily take different forms with social distancing. Nevertheless, community building should be prioritized in all modes of instruction, both in-person and remotely.
    - Develop and make widely available models and best practices for building a sense of community in hyflex and remote instruction

- Student learning and well-being are negatively affected by the immense psychological stresses in the current crisis. Effective support for student learning and well-being requires consistent attention to and incorporation of inclusive teaching practices.
  - Provide resources and consulting to help instructors create inclusive classrooms across student identity groups and teaching contexts.
  - Acknowledge (and help faculty members understand) the present challenges to students learning:
    - accessibility issues for students who are challenged in finding a space within their living quarters to attend classes,
    - different time zones (relevant for both asynchronous and synchronous formats),
    - challenges due to COVID illness,
    - identity-based hate speech
  - Determine approaches to accommodate/mitigate challenges in ways that take into account student privacy and sensitivities (see Students for Services with Disabilities for ideas) (6)
    - provide computers and other technology infrastructure as needed
    - offer asynchronous modes
    - acknowledge students’ inability to concentrate for long periods
    - provide training on and practice trauma-informed pedagogy
    - provide opportunities for students to indicate accessibility challenges; do not assume student access

- Students, faculty and staff of the UM come together as stakeholders and co-creators of a transformed learning environment. We share membership in a ‘new social contract’ of learning and safety and a commitment to the health and safety practices to ensure the viability and well-being of our community.
  - Provide students guidance through videos, “how I can make the most out of remote or hyflex instruction”. (CAI page on this); resources from Services for Students with Disabilities
  - Consider accessibility issues for both digital accessibility and physical accessibility; and engage with campus stakeholders (Office of Institutional Equity, Services for Students with Disabilities, ITS, and AEC) to quickly coordinate and develop resources to campus for use over the summer months.
- Make a range of digital platforms accessible (e.g., video conference platforms / live captioning, electronic tagging of visual resources, compatibility of software with assistive devices)
- Ensure adequate staffing and funding at SSD, ITS, or OIE for additional equipment/software or support for students.
- Ensure faculty and campus awareness of accessibility issues and requirements
  - Develop and clearly communicate a social contract for learning and teaching in this moment that students would then sign on to for membership in the UM learning community students are expected to comply with all safety measures.
- Teaching effectively in a remote/hybrid environment will require adaptation of pedagogical approaches, learning goals, and outcomes to promote and maximize robust and resilient educational experiences.
  - Emphasize the benefits and limitations of synchronous instruction (content provides opportunities for community building—blend asynchronous content with synchronous discussion; many might not have access).

**Recommendation 7: Discourage use of cumulative final examinations**

Promote the idea of other forms of assessment with faculty members and encourage faculty members to hold any absolutely necessary proctored examinations in a distributed form across the semester and, at the very least, prior to the end of the in-person exam period. To the extent possible, consider a different type of cumulative experience.

- Be cautious with this advice: Traditionally, the assessment principle does not allow for proctored final exams to be held prior to the exam period because this presents added stress and a handicap for students in relation to their other course expectations. If necessary to hold proctored exams, break the exams up across the two-and-a-half months of in-person instruction.
- Be mindful of demands on students during when giving examinations.
- Discourage the use of paper Scantron exams. Paper exams create potential safety concerns for instructors and staff who are handling all the paper.
  - Encourage laptop-based tools instead of paper for multiple-choice exams.
- Plan for alternative spaces for large lecture exams. Several departments currently schedule evening mid-term exams that take place in large lecture halls to allow for alternate seating. These may need to be split across multiple lecture halls to allow for appropriate social distancing, which could necessitate having additional proctors.
  - Be mindful of the fact that many students may have other evening classes. Multiple exam periods must be scheduled to accommodate students’ conflicting schedules.

**Recommendation 8: Use Pass/NRC grading for Fall 2020 and possibly for Winter 2021**

We strongly recommend a return to the Pass/No Record COVID grading system of Winter 2020. The experience on campus in the fall is likely to be challenging and stressful for all involved. We are unsure of the virus trajectory and may need to change plans mid-stream. P/NRC grading allows for a more agile turn to entirely remote teaching or to alternative modes of teaching, should public health requirements require the elimination of (partially) in-person classes.

Classes are likely to be offered using new formats and at least in part online or asynchronous, requiring adjustment from students and from instructors. Ultimately, the goal is to create flexibility for both students and faculty.

Moreover, being prepared for these eventualities will make for a more positive experience for all involved and is likely to increase the willingness of all—students and instructors, especially—to engage in these varied formats. Even in cases where instructors may not have an option to choose how they teach, we want them to feel comfortable with their experience, because happy instructors make better instructors.
P/NRC creates equity among students who will have uneven access to technology and to online assignments, who may not have dedicated study areas, who may not adapt easily to online instruction, etc.

Finally, feedback from SSD and from evaluations indicates that students greatly valued the flexibility afforded by Pass/NRC grading in Winter 2020, and that the grading rubric enhanced their learning experience and, in some cases, informed their decision to maintain enrollment and not withdraw.

A possible objection is that Spring/Summer 2020 classes use traditional grading. For those terms, students knew that teaching would be entirely remote, and could make decisions about enrollment based on that knowledge. For Fall, it will be hard to guarantee that class formats will remain consistent over the entire term, and hybrid models will require adjustment.

Recommendation 9: Provide additional support to ensure that students can access learning opportunities equitably

Given many aspects of Fall 2020 classes will be held in different, yet-to-be-determined formats (remote, hybrid, in-person, partial attendance in-person, etc.), we need to remind campus of the various accessibility requirements and inclusivity/equity matters that should be addressed, communicated, and planned for over the summer months. Although the Winter 2020 remote/digital transition was more reactive, we now have a small head-start to actively communicate resources, services, and requirements to campus to ensure the Fall 2020 classes are inclusive to all instructors and students. Accessibility-related recommendations and considerations to make Fall 2020 more flexible and accommodating to students include:

- Continue regular campus mass email messages of support for students and requests for instructors to be flexible and accommodating to changing circumstances.
- Remind the university community of the legal obligations to be an accessible environment, whether digital/remote or physical.
- Strongly encourage (or require, in some cases) instructors and/or units:
  - to promote the Services for Students with Disabilities office to students as part of class introductions and syllabi to extend the message of inclusivity in the classroom and to promote the service to instructors and students as early as possible.
  - to be upfront about attendance policies and how it will be responsive to possibly changing Fall instructional formats and circumstances
  - to provide options to students to weigh grades and assignments differently to allow both students and instructors to respond to changing circumstances in the Fall.
  - to primarily use digital platforms and tools officially licensed by U-M to ensure it meets standards for digital accessibility
- In addition to the P/NRC grading recommendation made above, consider more flexible withdrawal dates and/or tuition refund policies, if students decide that Fall 2020 isn’t working for them after starting the term.
- Task campus stakeholders in digital accessibility-related matters (OIE, ITS) and instructional training (CRLT) to develop coordinated, central resources to campus ahead of Fall 2020 and before instructors begin retooling Fall class formats.
- Be prepared for requests / funding requests for additional software, equipment, or staff support needed to meet accessibility needs, e.g. from OIE, SSD, ITS.
- Remind schools and colleges that changes to building entrances / public health procedures and classroom layouts need to remain compliant with ADA and general fire safety requirements.
- Ensure that campus transit / paratransit vehicles can safely accommodate those with special needs and can keep up with demand, particularly if social distancing requires fewer people in vehicles.


**Recommendation 10: Provide opportunities and processes for instructors to be able to apply to teach in entirely remote formats because of concerns about physical or mental well-being.**

Instructors (GSIs, Lecturers, tenure-track faculty) should have the option to choose to teach in entirely remote formats. Some instructors may fall in identified categories of vulnerability, others may not feel safe in classrooms despite safety protocols, still others may be concerned about students’ observation of safety protocols.

Principles that guide this recommendation:
- Faculty can be trusted to make good decisions regarding both their personal well-being and the needs of their students.
- Most faculty prefer in-person meetings if they feel safe.
- Teaching remotely is not easier than in-person teaching, and need not be any less effective than the hybrid models that are likely to be used for in-person classes.

Specific recommendations:
- Central administration should provide guidelines to units, related to:
  - General Counsel consultation/concerns
  - Confidentiality requirements related to medical disclosures
- Units should provide:
  - Procedures for submission of remote teaching requests
  - Criteria for granting remote teaching requests
  - Expectations for remote teaching performance

**Recommendation 11: Continue modified use of course evaluations for instructors**

In keeping with the recommendation regarding student grading, we similarly recommend that instructors’ course evaluation processes mirror those of Winter 2020. The coming semester has afforded us all more time to plan, but the modes and media are going to be unfamiliar to some and extremely new to others. Hyflex teaching is not at all simple, and we should not assume that course evaluations will be unaffected.

The effects will not only be a matter of instructors’ facility with tools and pedagogical approaches to teaching in the multiple formats simultaneously, but will also be a function of how students feel about their experience more generally. The restrictions on access, alternating schedules, reduced social calendar, limited extracurriculars, fears and anxieties about the virus, and—the unthinkable—the reduction of access to intercollegiate activities—will all have an effect on how students think about their teaching and learning experiences. Evaluations could easily become an outlet for expressing those frustrations.

Especially for those headed into tenure and promotion reviews, this semester needs to be marked in a special way, and evaluations need to be understood in context. Our extremely strong recommendation is that Fall 2020, and possibly Winter 2021, course evaluations not be required as part of promotion and tenure casebooks or annual reviews, and that instructors instead be asked to reflect on their experience in the massive new learning experience they had as they moved to offering multiple modes of instruction simultaneously.

**Summary of Challenges in the Hyflex/Hybrid Scenario**

Although our recommendation is to pursue a public-health informed in-person semester using hyflex/hybrid teaching and learning modes, we acknowledge any number of challenges to this approach. We tried to address these challenges in our considerations provided above, but we would be remiss not to offer a list of them to provide a reminder of the intense and coordinated work that will be required of many people in the next three months (and beyond). We provide an initial list in what follows, but suggest that the list could actually be much longer and more detailed if we were to delve completely into the pedagogical and mental and physical health challenges presented by our recommendation.
1. **Academic Calendar**: The fact that the academic calendar has no breaks could present mental health challenges for students. We may also lose some valuable instruction time with the start of the semester being remote for returning students and with the end of the semester being remote for almost all students. We wonder about the quality of that remote time. That said, we suspect that instructors and students will work hard to make the most of the time they do have on campus. The reduction in access to extracurricular activities could result in more time spent on curricular activities, but it could also result in a loss of satisfaction in terms of the overall education experience. Much of what students learn at the University of Michigan is embedded in the teaching and learning that happens outside the formal classroom.

2. **Scheduling**: Scheduling conflicts could result from units changing the timing of class meetings. We need units to commit to making modifications to the schedule within the frame provided by the existing course schedule. For example, if a unit decides to reschedule completely an entire course meeting time, then any student who has courses scheduled at the time of the newly scheduled course would be disadvantaged. This often happens with courses here and there, and students can generally work out the changes. If course rescheduling were to happen on a large scale, then chaos will ensue.

3. **Space**: We are still running the numbers to calculate whether we can hold our classes in their regularly scheduled rooms due to the physical distancing demands. Space also presents challenges for different instruction modes, especially those that require a lot of in-person instruction and movement. Moreover, the issues around scheduling noted above apply to space as well. If units change classes to different rooms, then they will throw off all the calculations unless they are certain that no other units use those classroom spaces.

Another space challenge is related to performance/lab/studio courses. Units with such courses may need to restructure other spaces to accommodate such classes. Because course scheduling in particular spaces is a dominoes game, any such changes will present challenges for the scheduling of other courses. As long as units are making changes that affect only their students and their students do not take courses in other units, this challenge can be addressed. That said, students do take courses across units in our highly interdisciplinary university; consequently, units need to be vigilant in their work to accommodate courses based on space needs so that they do not create the chaos mentioned in the scheduling section above.

4. **Health Monitoring**: It will be difficult to determine who can/cannot be in buildings without adequate staffing of health monitors. We tried to work around this by suggesting that building access be limited to students registered for classes in them, but we don’t know if that’s technically possible. We may also see challenges related to equity and inclusion: Will health monitors be trained to ensure that they do not implicitly profile students of certain backgrounds or with certain physical characteristics? We will need to ensure that all students, instructors, and staff members eligible to be in a building have equal access to that building.

5. **New Social Contract**: Will students adhere to it? Will faculty and staff? There are many dimensions of this, from physical distancing to mask wearing to hand washing and classroom sanitizing. What happens if people do not comply? Who monitors compliance? What recourse do other community members have in the face of open resistance to the culture of safety and respect? Will some community members feel empowered or disempowered to resist and/or to speak out in the face of resistance in relation to their status, racial/ethnic backgrounds, or gender identities? Who is the arbiter of the new social contract?

6. **Faculty Anxiety**: Many faculty members are in vulnerable categories and do not want to go back to in person teaching until it is completely safe. We can require them to do so, but fearful and/or disgruntled people do not make the best instructors.
7. **GSI Anxiety**: GSIs are both students and instructors. This means they are doubly exposed. A group of them has expressed feelings of anxiety and anger. Again, not a good combination for either teaching or learning.

8. **Pedagogy**: What we are proposing in terms of pedagogy is a heavy lift. It is hard to teach well in any situation, and it is even harder to teach in hyflex modes. Not all of our instructors are proficient in multiple modes of teaching. Most instructors are fluent in one mode of instruction, and the learning curve for new technology tools and new pedagogical approaches is steep. Moreover, the work truly requires pedagogical recalibration at a large scale, which requires great flexibility and a willingness to innovate and learn. Instructors are people, and people are not always willing to learn. In addition, most were not trained in pedagogical approaches but have, rather, learned on the job. And some are more effective than others. It takes time to bring people along, and we do not have a lot of time. (That's why our committee sees some urgency to announcing our plans, so that those who are resistant and/or struggling have more time to come to terms with the changes that will be required, together with more time to adapt their methods.)

Also on the pedagogy front, the available modes in this new reality do not support some kinds of instructional goals that are inherent in particular disciplines. It is extremely difficult to teach dance by video; learning to teach a child by using a cartoon avatar is a poor substitute for learning to teach real children; filling a cavity through a simulation is not going to produce a dentist who most people want to visit. This list of these kinds of instructional challenges is long and the challenge is almost insurmountable without access to the necessary practice sites. Until we can ensure that people can be in the spaces working with other people to learn these skills, we will not have a fully fleshed out pedagogical programs. We need to discern when and how we can relax some of the protections that have been suggested, and whether some instructional goals/programs of study can have exceptions. This issue is critical, for example, in law, education, and social work: We must have the opportunity for actual clinical practice with real people or our students will not be eligible for certifications/professional degrees. We should not be admitting people for degree programs if they will not be able to fulfill the terms of professional associations or state certifying bodies. We believe that the same exceptions applied to health sciences programs can be applied to these fields, thus circumventing this challenge, but this needs to be addressed and protective measures need to be developed for students and faculty in these and similar programs. The challenge to this idea, of course, is that the more we make exceptions, the more we contribute to public health challenges.

**Scenario 2 – Fully Remote Instruction or Operation**

We are not suggesting a fully remote semester unless the virus peaks, and we are unable to engage in person due to severe public health restrictions. If this occurs, the recommendations related to recalibrating our pedagogical for new delivery formats, supporting remote teaching, grading, and course evaluations will be the same as in the format above.

**Appendices – Supporting Documentation**

Please see three appendices attached.
This course typology provides a framework for units to evaluate:
1) what components of courses are most appropriate asynchronously, synchronously online, or in-person on campus instruction, and
2) which courses should have priority in being scheduled into limited classroom space under new social-distancing classroom capacities.

The type of course also helps determine the type of classroom that would be required for on-campus in-person instruction (auditorium with social distancing, circular discussion seating, classrooms with specialized technologies) and what types of resources are needed for successful instructional experiences. Those decisions then provide direction on the level of professional development for faculty and GSIs, tools required for student activities online and in-person, necessary staff support, and levels of assistance in course preparation.

We recommend each department and each faculty member discuss what type of course and what instructional activities would happen in each environment.

<table>
<thead>
<tr>
<th>Recommended Approach to Continue Activity</th>
<th>Considerations and Implications for In-Person and Face-to-Face Class Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Remote: Asynchronous Recordings</strong></td>
<td><strong>Priority for Scheduling High Quality In-Person Academic Experience</strong></td>
</tr>
<tr>
<td>(Lecture Capture, Studio Recordings, Kaltura Desktop)</td>
<td><strong>Priority for Scheduling High Quality In-Person Academic Experience</strong></td>
</tr>
<tr>
<td><strong>Remote Component Synchronous</strong></td>
<td><strong>Priority for Scheduling High Quality In-Person Academic Experience</strong></td>
</tr>
<tr>
<td>(Video Conference, Live Stream)</td>
<td><strong>Priority for Scheduling High Quality In-Person Academic Experience</strong></td>
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<tr>
<td><strong>Considerations and Implications for In-Person and Face-to-Face Class Sessions</strong></td>
<td><strong>Considerations and Implications for In-Person and Face-to-Face Class Sessions</strong></td>
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<thead>
<tr>
<th>Lecture-Based Courses (typically with Discussion Section—see below)</th>
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<tbody>
<tr>
<td>• Course component: LEC</td>
<td></td>
<td></td>
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<tr>
<td>• Tend to be Large Enrollment Courses &gt;50</td>
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<tr>
<td><strong>Considerations and Implications for In-Person and Face-to-Face Class Sessions</strong></td>
<td><strong>Considerations and Implications for In-Person and Face-to-Face Class Sessions</strong></td>
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<thead>
<tr>
<th>Discussion Sections (for Lecture-Based Courses)</th>
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<tbody>
<tr>
<td>• Course component: DIS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Typical enrollment is 18-25 students</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Considerations and Implications for In-Person and Face-to-Face Class Sessions</strong></td>
<td><strong>Considerations and Implications for In-Person and Face-to-Face Class Sessions</strong></td>
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<thead>
<tr>
<th>Lecture Courses with Faculty-Led Discussion in the Same Class</th>
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<tbody>
<tr>
<td>• Course component: LEC</td>
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<tr>
<td><strong>Considerations and Implications for In-Person and Face-to-Face Class Sessions</strong></td>
<td><strong>Considerations and Implications for In-Person and Face-to-Face Class Sessions</strong></td>
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<tr>
<th>Writing-Based Courses</th>
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<tbody>
<tr>
<td>• Course components vary (REC, SEM, LEC)</td>
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<tr>
<td><strong>Considerations and Implications for In-Person and Face-to-Face Class Sessions</strong></td>
<td><strong>Considerations and Implications for In-Person and Face-to-Face Class Sessions</strong></td>
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<th>Seminars / Capstone Project Courses</th>
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<tr>
<td>• Course component: SEM</td>
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<tr>
<td><strong>Considerations and Implications for In-Person and Face-to-Face Class Sessions</strong></td>
<td><strong>Considerations and Implications for In-Person and Face-to-Face Class Sessions</strong></td>
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<tr>
<th>Language Courses</th>
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<tr>
<td>• Course component: REC</td>
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<tr>
<td><strong>Considerations and Implications for In-Person and Face-to-Face Class Sessions</strong></td>
<td><strong>Considerations and Implications for In-Person and Face-to-Face Class Sessions</strong></td>
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<tr>
<th>Team-Based Learning, Collaborative Learning</th>
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<tbody>
<tr>
<td>• Course components vary (LEC, SEM, LAB)</td>
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<td></td>
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<tr>
<td><strong>Considerations and Implications for In-Person and Face-to-Face Class Sessions</strong></td>
<td><strong>Considerations and Implications for In-Person and Face-to-Face Class Sessions</strong></td>
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<table>
<thead>
<tr>
<th>Courses with Student Hands-On Experiences and Object Examination</th>
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<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Course components vary (LAB, REC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Considerations and Implications for In-Person and Face-to-Face Class Sessions</strong></td>
<td><strong>Considerations and Implications for In-Person and Face-to-Face Class Sessions</strong></td>
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Appendix A: At-A-Glance - Course Types and Priorities for Remote and In-Person Experiences

Confidential - Preliminary and Advisory

- Preliminary and Advisory
### Recommended Approach to Continue Activity

<table>
<thead>
<tr>
<th>Remote: Asynchronous Recordings (Lecture Capture, Studio Recordings, Kaltura Desktop)</th>
<th>Remote Component Synchronous (Video Conference, Live Stream)</th>
<th>Priority for Scheduling High Quality In-Person Academic Experience</th>
<th>Considerations and Implications for In-Person and Face-to-Face Class Sessions</th>
</tr>
</thead>
</table>
| **Courses with Demonstrations**  
- Course components vary (LEC, SEM, LAB) | X | X | Priority | Should consider whether video is an option |
| **Courses and Experiences with Peer Facilitators**  
- Course Components vary | X | X | Occasional Sessions | Need to train peer facilitators for positive experiences |
| **Review Sessions** | X | X | | |
| **Study Groups** | | X | | |
| **Office Hours** | | X | | Faculty consultations could potentially take place in smaller classrooms that allow social distancing for 2 or 3 people |
| **Independent Study** | | X | | Faculty Consultations could potentially take place in smaller classrooms that allow social distancing for 2 or 3 people |

### Additional Opportunities Regardless of Course Type

| Collective Experiences (Guest Speakers, Tours, Field Trips, etc.) | X | | |
| Coaching Sessions, Mentoring, and One-on-One Consultations | X | | Faculty Consultations could potentially take place in smaller classrooms that allow social distancing for 2 or 3 people |
| Departmental Co-Curricular Activities | X | X | Co-curricular activities for small groups of majors to create connection among majors and faculty |
| Living Learning Activities | X | X | X |

### Additional considerations for format of instruction and type of course:

#### Remote Instruction

- If an instructor is unable to come to campus, the course should be held remotely, regardless of Course Type.
- If Course Type does not have significant pedagogical reasons for in-person on-campus activities, it should be held remotely.
- Large enrollment courses
- For any classes fully remote, instructors may explore community building in-person initiatives deferred to department or to extra-curricular projects

#### Mixed Instructional Opportunities: HyFlex, Hybrid

- Some students will not be able to come to campus and therefore will require means to participate by remote asynchronous and/or remote synchronous methods
- Units should be prepared to have means to offer access to various means of participation
- Space limitations may require portions of classes attend on different days (staggered approach)
- Provide sufficient time on a regular basis in the online synchronous environment for personal connections --whether in small groups or between students in order to build community among the students, faculty should explore alternative methods for creating community even in a remote environment.
Appendix A: At-A-Glance - Course Types and Priorities for Remote and In-Person Experiences

- If course type is not well suited to be conducted with PPE, consider how to move some activities online and limit in-person HyFlex experience to activities best suited for in-person.
- Explore resources for best practices for success HyFlex and Hybrid instruction. Examples Jack Miller (stats) has written on their work with HyFlex, which involved a back channel and audience response system. Perhaps a reference to their setup and article: Student Choice, Instructor Flexibility: Moving Beyond the Blended Instructional Model | Miller | Issues and Trends in Learning Technologies

In-Person Experiences

- If the instructor is able to come to campus, instructor should explore in-person options for classes: There should be significant pedagogical reasons for specific in-person on-campus activities
- Does not assume all aspects of the course are on-campus; Any activities that can be done remotely should be done remotely.
- Focus should be on community building and personal connections between students and with faculty and collective celebrations of accomplishments
- In-person experiences could be led by GSIs, department staff, student leaders, or peer mentors, if the faculty member isn’t able to participate
- Consider whether there are any special PPE requirements required for the particular kind of class (e.g.: object evaluation, hands-on activities) or whether classes may divide by days or weeks so that fewer students are present in person, while others are remote (either synchronous or asynchronous. Can the class be pedagogically effective if students are far apart and wearing masks?
- Instructors may still choose to hold some aspects of the instructional experience remotely or outside the classroom, even if there are some in-person portions of the course. For example, instructors may prefer to meet students one-on-one online or in a specially reserved classroom.

Reference Data - Fall 2019 Classes Scheduled in Classrooms by Component Type

<table>
<thead>
<tr>
<th>w/ Enrl 1-50</th>
<th># of classes</th>
<th>% of class enr 50 or under</th>
<th>% of all class sizes</th>
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</thead>
<tbody>
<tr>
<td>DIS (discussion)</td>
<td>1,792</td>
<td>32%</td>
<td>27%</td>
</tr>
<tr>
<td>LEC (lecture)</td>
<td>1,662</td>
<td>30%</td>
<td>25%</td>
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<tr>
<td>REC (recitation)</td>
<td>963</td>
<td>17%</td>
<td>15%</td>
</tr>
<tr>
<td>SEM (seminar)</td>
<td>738</td>
<td>13%</td>
<td>11%</td>
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<tr>
<td>LAB (lab)*</td>
<td>343</td>
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<td>CLN (clinic)*</td>
<td>37</td>
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<td>1%</td>
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<tr>
<td>IND (independent study)*</td>
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<td>0%</td>
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<tr>
<td>PSI (personal instruction)*</td>
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<th>% of all class sizes</th>
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<td>LEC (lecture)</td>
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<td>REC (recitation)</td>
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<td>SEM (seminar)</td>
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<td>DIS (discussion)</td>
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<td>0%</td>
</tr>
<tr>
<td>LAB (lab)*</td>
<td>20</td>
<td>2%</td>
<td>0%</td>
</tr>
<tr>
<td>Subtotal</td>
<td>1,033</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grand total</td>
<td>6,574</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* NOTE: Counts for all class components, but particularly labs, clinics, independent studies, etc, only account for those that have been assigned a formal general purpose classroom. It does not include sections scheduled in other room types (lab, studios, computer rooms, etc).
<table>
<thead>
<tr>
<th><strong>Lecture-Based Courses</strong> (see below for the accompanying Discussion Section)</th>
<th>Lecture Recordings</th>
<th>Discussion</th>
<th>Possible</th>
<th>Possible</th>
<th>Need to find ways to help faculty integrate Engaged and Active Learning features in Lectures online</th>
<th>LEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rich asynchronous threaded discussion</td>
<td>Q&amp;A</td>
<td>Possible</td>
<td>Possible - might need voice reinforcement</td>
<td>Consider how asynchronous discussion fits in with the need for a discussion section.</td>
<td>DIS</td>
<td></td>
</tr>
<tr>
<td>Preparation for the GSI-led discussion sections</td>
<td>Review Sessions</td>
<td>Q&amp;A Free-flowing discussion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tutorial Videos for deep dives into specific topics</td>
<td>Polls/iClicker?</td>
<td></td>
<td></td>
<td>Consider better ways to train GSI to engage students and orchestrate true discussion (not just one-way thought dump)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course information and activities for students to get to know each other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Discussion Sections (for lecture-based courses)</strong></th>
<th>Prep work/ Scaffolding resources recorded in advance</th>
<th>Provide GSIs with training for facilitating and conducting more engaging and more inclusive synchronous discussion, and use of breakout rooms</th>
<th>Q&amp;A</th>
<th>Possible</th>
<th>Possible - might need voice reinforcement</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Free-flowing discussion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Consider better ways to train GSI to engage students and orchestrate true discussion (not just one-way thought dump)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Lecture with Faculty-Led Discussion in the Same Class</strong></th>
<th>Lecture Remote</th>
<th>Faculty-led Discussion Remote or HyFlex</th>
<th>HyFlex Option</th>
<th>Possible</th>
<th>Possible with voice reinforcement for student portion of discussion</th>
<th>LEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rich asynchronous threaded discussion – encourage ways for greater inclusion of all students</td>
<td>Break-out small groups with Active Learning Techniques</td>
<td>Q&amp;A</td>
<td></td>
<td>Need to find ways to help faculty integrate Engaged and Active Learning Features into Lectures and engage more with lecture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tutorial Videos for deep dives into specific topics</td>
<td>Build in sufficient time for social connection and share personal experiences</td>
<td></td>
<td></td>
<td>Identify roles to help with discussion mgmt (“Zoom manager” to manage breakouts or chat manager) with guidelines for each role. These could be GSIs, undergrad learning assistants, staff, student volunteers)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ways for the students to see where they are in the course and ways to get to know each other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Writing-Based Courses

- Scaffolding and faculty reflection to frame the week ahead
- Remote ways to add asynchronous components to feedback sessions. For example, students could post papers and others could comment on them, either in docs or even with audio commentary. This would allow for a deeper synchronous discussion.

## Seminars/ Capstone Project Courses

- Student and Faculty presentations could be recorded
- Small group discussion in break-out rooms
- Low Enrollment courses could do presentations live

## Peer Editing

- Discussion Remote HyFlex of In-Person Activities
- Group Writing/ Peer Review in Breakout Rooms
- Individual writing consultations

## Group Writing/Peer Editing

- Several Times/ Semester Community Connection [+/- Masks]
- Student Readings/ Presentation/ Poetry Slam [+ Mask]
- Individual instructor feedback

## Group Writing/Peer Editing challenging at 6ft, impossible at 12ft

## Group Writing/Peer Editing challenging at 6ft, impossible at 12ft

## Sharing printouts and doing physical print-based peer review may not be possible

## Sharing printouts and doing physical print-based peer review may not be possible

## Possible/ Challenging-Might need voice reinforcement

## Portfolio work might require better tools/additional resources (e.g.: ways to include multiple audiences; facilitate feedback)

## New Opportunity: Invite outside guest, experts, family to celebrate the culminating work (Mini-Conference)

## Developing a discussion with video conference lag may require the community surfacing practices

## IGR is working with an outside expert on online Intergroup Relations and training people in speaking and listening.

## Graduate seminars?
<table>
<thead>
<tr>
<th>Language Courses</th>
<th>Remote Content</th>
<th>Language Practice</th>
<th>Pronunciation Guidance Language Practice</th>
<th>Challenging at 6ft/student impossible at 12ft/student</th>
<th>Very Challenging</th>
<th>Use Technology to connect with native speaking peers -- experience not typically integrated into traditional classrooms. Could transform into high-impact learning.</th>
<th>Community Building Activities at the beginning of term and then continue throughout the term</th>
<th>REC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote or HyFlex</td>
<td>Remote Content: Grammar, Culture, Media &amp; Film</td>
<td>Do Pair Practice, Partner work, and Small Group Work in Breakout Rooms</td>
<td>Writing non-roman font characters Community Connection</td>
<td>Have faculty prioritize what teaching scenarios would work better in person</td>
<td>Create working groups where the students stay in those groups and half come one day and half come the next</td>
<td>HyFlex could be harder if there are multiple people who need to</td>
<td>Instructors might want to figure alternative activities for those who cannot ever be on campus… those student interacting remotely; or interacting with instructor or peer mentors</td>
<td>Use Technology to connect with native speaking peers -- experience not typically integrated into traditional classrooms. Could transform into high-impact learning.</td>
</tr>
</tbody>
</table>

Appendix A: At-A-Glance - Course Types and Priorities for Remote and In-Person Experiences
### Team-Based Learning, Collaborative Learning

- **Background Information**
  - Introduction, Scaffolding and faculty reflection
  - Remote

- **Scaffolding Synchronous or HyFlex**
  - Class or Team Discussion Remote or HyFlex
  - Collaborative Learning Groups / Team Problem Solving in Break Outs

- **Student teams presenting their work to the instructor, get instructor feedback**
  - Hearing ideas from other students -- spontaneous discussion and brainstorming

- **Team/Group Work challenging at 6ft, impossible at 12ft**
  - Set specific project days
  - Reduce number of students in classrooms by creating working groups where the students stay in those groups and one day each week half of the students come one day and half come the next

- **TBL classrooms typically have more space for social distancing. Occasional opportunities to work in person may increase team cohesion**
  - Find ways to help students engage more with asynchronous discussion
  - New opportunity: train students in how to collaborate online in an inclusive manner.
  - Technology Challenge: Shared Whiteboard and Tablets
    - (If every student had writing capable tablet and internet connection, then online collaboration might be far better than groups at 6ft)
  - Technology Challenge if specialized software or equipment or studio space

### Courses with Student Hands-On Experiences and Object Examination

- **Prep work/ Scaffolding recorded**
  - Discussion for pre- and post-activity reflection

- **Group Analysis /Discussion after the hands-on work**
  - Best hands-on experience for student
  - Access to Special Equipment
  - On-site examination of art objects or exhibits
  - Lab experiments

- **Challenging. Fewer students in lab = more hours by lab fac/staff.**
- **PPE typical/expected in some fields; Challenging in others**

---

**Appendix A: At-A-Glance - Course Types and Priorities for Remote and In-Person Experiences**

<p>| Team-Based Learning, Collaborative Learning | Background Information | Scaffolding Synchronous or HyFlex | Student teams presenting their work to the instructor, get instructor feedback | Team/Group Work challenging at 6ft, impossible at 12ft | TBL classrooms typically have more space for social distancing. Occasional opportunities to work in person may increase team cohesion | Find ways to help students engage more with asynchronous discussion | New opportunity: train students in how to collaborate online in an inclusive manner. | Technology Challenge: Shared Whiteboard and Tablets | (If every student had writing capable tablet and internet connection, then online collaboration might be far better than groups at 6ft) | Technology Challenge if specialized software or equipment or studio space |
|-------------------------------------------|-------------------------|-----------------------------------|-----------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Courses with Student Hands-On Experiences and Object Examination (labs, clinics, film production, studio, art, museum work) | Prep work/ Scaffolding recorded | Group Analysis /Discussion after the hands-on work | Best hands-on experience for student | Challenging. Fewer students in lab = more hours by lab fac/staff. | PPE typical/expected in some fields; Challenging in others | | | | | |</p>
<table>
<thead>
<tr>
<th>Courses with Demonstrations</th>
<th>Demonstrations of Formal Video Production</th>
<th>Potential plus = Live Remote demo/access to specialized labs and experiments not typically available. (video conference broadcast)</th>
<th>Student exposure to demonstrations where sensory feedback is significant aspect Student performance of activity.</th>
<th>Future XR experiences possible? Use high quality camera for close-up visual not possible in in-person courses</th>
<th>Remote Synchronous: Biology Lab video conference with students in lecture course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courses with Peer Facilitators</td>
<td>Peer Facilitators could record tutorial videos and background info Peer Facilitated Text based interaction and threaded discussion</td>
<td>Small group and Peer Facilitation</td>
<td>Small Group HyFlex Q&amp;A Free-flowing discussion</td>
<td>Need to train peer facilitators for positive experiences</td>
<td></td>
</tr>
<tr>
<td>Review Sessions</td>
<td>Recordings made of Synchronous Q&amp;A for others to review later Piazza for crowd sourcing Q&amp;A in advance of synchronous sessions</td>
<td>Q&amp;A Discussion Demonstration of Probe</td>
<td>Possible</td>
<td>Possible - might need voice reinforcement</td>
<td></td>
</tr>
<tr>
<td>Study Groups</td>
<td>Prep work/ Scaffolding recorded Recordings of common challenges Online tools that students complete separately and then discuss in synchronous sessions</td>
<td>Small group and Peer Facilitation</td>
<td>Small Group Work</td>
<td>Faculty and GSIs could create common materials for study groups to start with and then focus on synchronous experiences</td>
<td></td>
</tr>
</tbody>
</table>
### Office Hours
Create materials in advance to anticipate most common office hours questions: video explanations, tutorials/recordings of commonly asked questions, Piazza, etc.

- Scheduled one-on-one or small group office hours
- ITS BlueJeans Queue
- Ways for the faculty to get to know the students

May need larger meeting space

Use Piazza for Online Discussion as alternative FAQ for logistical, instruction type Qs

### Independent Study
Scheduled one-on-one meetings and mentoring

### Options and Opportunities and Additional Thoughts Regardless of Course Type

<table>
<thead>
<tr>
<th>Collective Experiences</th>
<th>Events, Guest Speakers, Field Trips</th>
<th>Q&amp;A with Experts, Tour of Museum, Demonstration (place-based to counter just another Zoom mtg)</th>
<th>Group musical performances</th>
</tr>
</thead>
</table>

| One-on-one             | Conversation partner with native speaker, Interview an Expert in the field |

| Departmental Co-Curricular Activities | Events for Majors |

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Appendix B: Research and Modeling based on the 4-10 (Weitzman) Model.

Following Karin, et al. (2020), we investigated one approach where the alternation is selected to exploit phase characteristics of the course of COVID-19 illness to concentrate in person instruction to occur mostly during the latent period after potential infection, which is described by He et al. (2020) as 2.9 to 3.5 days post exposure.

“Exposure” (i.e., in-person instruction) is then followed by a period of relative isolation to encompass peak infectiousness (described by He et al. (2020) as 4.5 to 5.1 days post exposure), and then emergence from that isolation when the risk of transmission is low, which is described by He et al. (2020) as 12 to 13 days post exposure.

The approach is illustrated in the diagram below, taken from Karin et al. (2020):

In the "4-10" model, proposed by Karin et al. (2020), students would attend class for four days and then spend ten days in relative isolation (during isolation days that fall on instruction days, students would receive remote instruction). U-M students and faculty would be divided into two cohorts — one that would meet in person during Days 1-4 of a two week cycle and the other that would meet during Days 8-11 of the cycle. In the alternating week model, following an example adopted by Austrian schools, the two cohorts would alternate weeks of in person meetings with weeks of relative isolation (e.g., Days 1-5 in person for the first group and Days 8-12 in person for the second group). Variants of these approaches include adoption at the unit versus the campus level and selection of different alternation intervals (e.g., 3-11 and so forth).

Creation of campus level cohorts could be done based on similarities in the scheduling of large blocks of students. A preliminary feasibility assessment by the Registrar’s Office suggests this approach is easiest in professional graduate programs with relatively lockstep curriculums (as shown in the figure below for Pharmacy; figure courtesy of Lisa Emery). The approach is most difficult to achieve in the context of undergraduate programs (particularly in LSA) where the number and variety of courses makes it more difficult to identify common clusters (e.g., more than 2000 courses; first year courses with the highest concentration have only 10-15% of all first year students).
The cohorts could also be based on geographic neighborhoods, such as residence halls and off campus districts defined by density (e.g., tower residences versus neighborhoods of small, multi-unit dwellings). A preliminary feasibility study suggests that data from the Office of Enrollment Management can be used to identify geographic boundaries based on density of housing, as shown in the heatmap figure below (based on Fall 2019 student residential data; image courtesy of Steve Lonn).

<table>
<thead>
<tr>
<th>Student A:</th>
<th>Student B:</th>
<th>Student C:</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDCHEM 500</td>
<td>MEDCHEM 500</td>
<td>MEDCHEM 500</td>
</tr>
<tr>
<td>PHARMACY 501</td>
<td>PHARMACY 501</td>
<td>PHARMACY 501</td>
</tr>
<tr>
<td>PHARMACY 504</td>
<td>PHARMACY 504</td>
<td>PHARMACY 504</td>
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<tr>
<td>PHARMACY 506</td>
<td>PHARMACY 506</td>
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<tr>
<td>PHARMACY 508</td>
<td>PHARMACY 508</td>
<td>PHARMACY 508</td>
</tr>
<tr>
<td>PHARMACY 511</td>
<td>PHARMACY 511</td>
<td>PHARMACY 511</td>
</tr>
<tr>
<td>EPID 506</td>
<td>ACC 471 (Ross class)</td>
<td>PHARMACY 503</td>
</tr>
</tbody>
</table>
Appendix C: Notes from Conversations with SSD and OIE on Students’ Accessibility Needs

Highlights from Conversation with Services for Students with Disabilities

Our campus has a large number of students who have registered with the Services for Students with Disabilities office (SSD) as needing a formal accommodation. Accommodations can be for a range of student needs and respond to various disabilities or conditions, such as learning disabilities, ADHD, autism spectrum disorders, psychological disorders, chronic health conditions, mobility issues, being immunocompromised, etc. Each of these conditions requires different types of accommodations, and SSD is the designated unit that can help address a student’s needs with their instructor. SSD works closely not only with students and faculty/instructors, but also with OIE, ITS, and other unit stakeholders in solving for the various accommodations and for learning/sharing best practices.

For SSD to assist students and faculty, students must self-identify and register with SSD. That being said, for the success of our students in a Fall 2020 term that will have various and new class formats and challenges, the university should promote SSD to students wherever possible, so that students can formally request assistance from SSD.

Feedback from students to SSD

- SSD has received feedback from students both praising the Winter 2020 remote format and detracting it. While they don’t have concrete data on this, they noticed trends that students with chronic health conditions or mobility issues had positive experiences with Winter 2020, whereas those with learning disabilities, ADHD, autism spectrum disorders, etc, had more negative experiences with Winter 2020.
- SSD noted their students and their parents are eager to learn about Fall 2020 class formats, so they can make the best decision about Fall 2020 enrollment.
- Students and parents raised to SSD positives from Winter 2020 and actively ask SSD if they will be carried forward into Fall 2020:
  - Messages from leadership to instructors and campus about flexibility and being accommodating. SSD noted that their students felt “seen” by leadership.
    - SSD noted that many students (who are registered with SSD) feel uncomfortable bringing up accommodation needs to instructors, if they get the sense that instructors are not understanding. SSD would be willing to provide detailed language/scripts or guidance to instructors to use at the beginning of the term.
  - Many students felt that the Winter 2020 response was a watershed moment in terms of how accommodating campus can be. SSD noted that students are seeing proof that U-M can broadly rely on remote or electronic solutions as an appropriate way to accommodate students.
  - Students shared with SSD and credited the grading policies as one of the reasons why they didn’t withdraw from the Winter 2020 term. The RO also has also noted that the Winter 2020 general withdrawal rate didn’t vary much from previous terms, and they are drawing the same conclusion that the grading policy may have been a major contributing factor.
- SSD raised concerns about health and safety of students (e.g. high risk populations) in elevators and particularly wanted to understand how social distancing will occur in these spaces.

SSD services in Winter 2020 and accommodating to students in remote environments

- SSD saw big increases in new registrations of students at the end of Winter 2020 and in Spring / Summer 2020. The biggest increase (by accommodation type) was for students with hearing impairments, since this presents new challenges in remote / digital environments.
Traditionally, the two most common accommodations requests SSD receives are the need for extended exam time or the need for a low-distraction testing environment. However, in the remote Winter/Spring/Summer 2020 terms, new accommodation needs have arisen, and this has presented SSD with new challenges in serving both students and instructors. Oftentimes the solutions have not been perfect, but with advanced planning SSD feels equipped to assist students and faculty appropriately.

Examples:
- Securing additional notetakers for students with hearing impairments who did not need this assistance in in-person settings.
- Helping students get printer access, paper, and/or ink (e.g. for students who have light sensitivity or migraines and cannot take tests via a computer).
- Coordinating with instructors to send tests electronically in printable format directly to students at designated times (for printing, taking, and sending back to instructor) to assure test integrity.
- Needing to purchase noise canceling headphones for students to provide a "low distraction testing environment"
- Providing materials in Braille format (in progress; not yet fully solved)

Highlights from Conversation with Office of Institutional Equity (OIE)

Digital accessibility
- Every new tool an instructor uses has the benefit of transforming learning but also the risk of not being accessible or accommodating. Whether they deliver their classes via video conferencing platforms, basic digital documents, lecture capture systems, tools or materials posted within Canvas, or other creative platforms, instructors have a new added layer of making sure anything they do in the digital sphere is inclusive to all of their students and meets laws and regulations for accessibility. Luckily, neither OIE or SSD had or were aware of any Winter 2020 “horror” stories to share regarding technological hiccups. However, we now have a small head-start ahead of Fall 2020 to ensure that more instructors are informed and can prepare.
- Digital accessibility issues and regulations are complicated and cover a wide range of areas. To better understand it as a committee and as a campus, we should engage with OIE colleagues as soon as possible this spring/summer to determine the best way to coordinate central resources for instructors.

Physical accessibility
- Building entrances and access - As units plan to reopen buildings for in-person instruction, they should be mindful that any changes to entering and exiting buildings, as well as maneuvering in and out of elevators, should take physical accessibility into account. A public health informed approach to entering and screening must keep all members of the community with all abilities in mind.
- Classroom accessibility and accommodations - Any rearranging of room furniture or installing of screens or fixtures for public health related needs must still meet ADA standards for width of walkways, wheelchair turning radiuses, and so on. Units should seek guidance from AEC to validate that changes are still accommodating.
- Para-transit - It’s important to understand how students and instructors will be able to rely on paratransit services to get to designated building entrances. SSD also raised questions of safe social distancing within the vehicles and demand for these services overall.
Executive Summary from the “Large and Foundational Courses” Committee  
May 29, 2020

Large courses at Michigan present both challenges and opportunities for the 20/21 academic year. Public health constraints require significant redesign of these courses. Large section meetings must be offered remotely, while small section meetings can be offered through in-person/hybrid designs. Delivering these courses in equitable and inclusive ways will require thoughtful design and careful attention. A variety of student support systems will need to be adapted to provide safe and effective delivery of their services. This redesign effort, properly supported, offers an opportunity to accelerate improvements to the design and delivery of large courses on our campus, both for the upcoming year and for the longer term.

In this report we offer a reminder of the nature and importance of large courses at Michigan and a substantial set of value-driven recommendations for their design and delivery during this COVID year. Doing this work will be a massive undertaking, so we conclude with recommendations for how the continued improvement of these courses should be supported by the central administration, the schools and colleges, our departments and programs, and their instructional teams.

The Nature and Importance of Large Courses at Michigan:
- The University of Michigan teaches at scale, offering more than 700 courses which have section meetings with more than 50 students. On average, these large section meetings make up 46% of all students credit hours.
- Most high enrollment courses combine large ‘lecture’ class meetings with small ‘discussion’, ‘lab’, or ‘recitation’ class meetings. As always, this dual mode will provide students with in-person/hybrid instruction even when all large sections meet remotely.
- ‘Foundational’ courses introduce diverse students to disciplines and lay foundations for further study. Because of their importance, they should be prioritized for support.
- Large and foundational courses present special challenges for equitable and inclusive instruction. These challenges have been magnified by the move to remote instruction.

Guiding Principles:
- Equity, inclusion, and student success should be central goals and success metrics for all large and foundational courses. They should be examined across course modalities and among groups of students during this COVID year.
- Large and foundational courses should be supported to engage in a cycle of evidence-based improvement during the 20/21 academic year.

General Assumptions:
- ‘Large’ section meetings will take place remotely throughout the 20/21 academic year. ‘Small’ section meetings may be delivered as in-person/hybrid or fully remote experiences as public health circumstances allow.

Key recommendations for both Scenario 1 and Scenario 2:
‘Large’ section meetings will take place in a fully online format throughout the 20/21 academic year. ‘Small’ section meetings may be offered in in-person/hybrid or fully remote formats as public health circumstances allow. Some ‘small’ section meetings may be designated as fully online.

Designations of fully online (typically ‘large’) and possibly in-person/hybrid (typically ‘small’) sections of every course should be defined by each school or college, in consultation with the registrar and room scheduling, and fixed as such by a date to be suggested by the Coordinating Committee.

- Fully online course meetings should be asynchronous, and must at a minimum allow for asynchronous participation with no direct grading penalty.
- In-person/hybrid course meetings will typically be synchronous, but must at least support remote asynchronous participation with no direct grading penalty.

A list of ‘foundational’ courses should be defined by each school or college. These courses should be made eligible for focused support as recommended below.

Examinations and other assessments for all courses with large sections will need to be carefully redesigned for the 20/21 academic year.

Roles for members of large course instructional teams will need to be reconsidered for remote and in-person/hybrid instruction. Planning is also needed to accommodate the possibility of some instructors becoming ill or otherwise unavailable.

The committee provides many specific recommendations on design principles, course structures and meetings, presentation and production, and assessments.

**Supporting the design and delivery of large and foundational courses in AY 20/21**

- Preparing more than 700 equitable and inclusive large and foundational courses for the 20/21 academic year will require truly substantial new work.
- We recommend that the Provost encourage and enable every level of the campus to invest in design and delivery of fully online large courses during the 20/21 academic year. Making it clear that expenses focused on this work should be considered ‘essential’ and authorized would be an important step.
- Given the importance of foundational courses, we recommend that the Provost engage in and encourage prioritized investment in this subset of large courses.
- Supporting this work will require efforts from all levels of the campus, including Provost’s office units (CRLT, CAI), schools and colleges, departments and programs, and large course instructional teams.
Report from the “Large and Foundational Courses” fall 2020 planning committee
Version 1.0 - Submitted to the Coordinating Committee 5/29/20

Background and overview:

The Large and Foundational Courses (LFC) Committee was charged to “Leverage learnings from the Foundational Course Initiative (FCI) to significantly enhance remote instruction for large classes while ensuring courses are delivered in an equitable and inclusive manner.”

Objectives:

1. Gather information about how these types of instruction have fared under ‘emergency remote’ teaching in Winter 2020
2. Determine how to improve on remote experience for large classes
   a. High-quality large lecture experience
   b. Smaller engaged experiences
3. Develop a set of guiding principles that foundational and other large courses will be encouraged to consistently follow to promote student success (e.g., delivery of course materials, factors that impact grading in a remote environment, in recognition of the gate-keeping aspect of these courses)
4. Identify and recommend resources needed to support enhanced remote instruction, including instructional design, additional GSI support, etc.
5. Ensure courses are delivered in an equitable and inclusive manner
6. Coordinate with other instruction-focused committees

Early discussions convinced us of the need to add several tasks to this list, especially:

1. Develop working definitions of ‘large’ and ‘foundational’, along with lists of courses which fell in these categories in fall 2019
2. Define a set of principles governing design, development, and delivery of each category to guide these course offerings during the 2020/2021 academic year

Committee membership:

- **Tim McKay** (Chair), Arthur F. Thurnau Professor; Associate Dean for Undergraduate Education, Professor of Physics, Professor of Astronomy, LSA; Professor of Education, School of Education
- **Angela Calabrese Barton**, Professor of Education, School of Education
- **Valeria Bertacco**, Arthur F. Thurnau Professor; Vice Provost, Engaged Learning, Office of the Provost and EVPAA; Professor of Electrical Engineering and Computer Science, College of Engineering
- **James DeVaney**, Associate Vice Provost for Academic Innovation and Founding Executive Director of the Center for Academic Innovation
- **Barry Fishman**, Arthur F. Thurnau Professor; Professor of Education, School of Education; Professor of Information, School of Information
- **Denise Galarza Sepúlveda**, Director, Foundational Course Initiative, Center for Research on Learning and Teaching
Defining large and foundational courses:

Key points:
- Course sections at Michigan meet at two scales. Students spend about 45% of their time in sections larger than 50, and about 55% of their time in sections smaller than 50.
- Many high enrollment courses combine large ‘lecture’ sessions with small ‘discussion’, ‘lab’, or ‘recitation’ sections.
- ‘Foundational’ courses introduce diverse students to disciplines and lay foundations for further study. Because of their importance, they should be prioritized for support.
- Large and foundational courses present special challenges for equitable and inclusive instruction. These challenges have been magnified by the move to remote instruction.

Context: In defining large and foundational courses, we refer to the work of Umbricht & Stange 2019, “Perception Isn’t Everything: The Reality of Class Size”, which was conducted as part of their work on the UM Institutional Learning Analytics (UMILA) committee. This paper describes credit hour weighted distribution of section meeting sizes for University of Michigan students, shown in the figure below. From this figure, it is apparent the courses at Michigan meet in two essentially different section sizes: roughly divided by a boundary at 50 students.

Indoor meetings of large groups have been seen by public health authorities as especially problematic, and early studies of UM classroom space under social distancing constraints suggest that it will be difficult to find classroom spaces for sections larger than 50.

For these reasons, we use section sizes of 50 students as a dividing line for the definitions and advice that follows. We acknowledge that choosing a threshold of 50 students is somewhat arbitrary, and suggest that it could more conservatively be set at 40 with only a marginal effect on the list of courses included. Finally, we note that the American College Health Association has recently suggested limits of 30 students. Absent more input from public health experts, we recommend 50 as a starting point for discussions, and provide suggestions for how each school and college might decide what to consider large and foundational in their specific context.
Defining large courses: We will designate as “large” any course which in fall 2019 had at least some class meetings which included 50 or more students. We provide along with this report a table listing all fall 2019 courses and reporting total enrollment. This list also describes the ‘section meetings’ of each course. Sections are labeled in the course guide according to the categories lecture, discussions, lab, recitation, and seminar. For each type of section, we record total enrollment, number of sections, and average enrollment by section type. An extract of the table is shown below.

Examination of this yields a list of 543 courses with large ‘lecture’ sections, 17 courses with large ‘discussion’ sections, 44 courses with large ‘lab’ sections, 94 courses with large ‘recitation sections’, and 28 courses with large ‘seminar’ sections. While the first group is dominated by lecture sections of undergraduate courses in LSA, each of the lists is quite diverse, including both undergraduate and graduate courses across all of the schools and colleges.

By this measure, the university offered a total of 726 ‘large’ courses during the fall 2019 semester. We note that current enrollment expectations envision an increase in undergraduate enrollment of more than 6%. This could push significantly more course sections into the ‘large’ category, and will need to be considered when finally defining a list of large courses for fall.
Umbricht and Stange show that these large section meetings typically account for 46.4% of all class meeting times at Michigan. Network measures of course co-enrollments show that shifting all sections larger than 50 to remote instruction will reduce total student-to-student contact hours by 84%, while still holding open the possibility of students meeting in person for 50% or more of their total class time, when conditions allow.

Roughly two-thirds of the courses with large lecture sections already include discussion, lab, or recitation sections which are smaller than 50. These courses provide good candidates for hybrid online and in-person instruction.

**Focusing on foundational courses:** We designate as “foundational” all “large” courses which introduce diverse students to disciplines. Many of these courses are 100 and 200 level courses in LSA and COE and labelled as introductory. Others occur at the 200 and 300 level, introducing students to new disciplines in SPH, SI, ARCH, and more. A third group of foundational courses occurs at the graduate level, as in courses like PIBS 503 and BIOSTAT 521.

Foundational courses are especially important for students. They introduce them to disciplines, offering important opportunities to expand their intellectual horizons, develop new skills, and explore possible future paths. Foundational courses are also challenging to teach. Students arrive at these courses from very diverse backgrounds, with wide-ranging interests and goals. Responding to this diversity requires flexible learning environments which provide viable pathways to competence for all students.

In the past, foundational courses in some disciplines have been seen across higher education as ‘gateways’; expected to decide who should continue and to ‘weed out’ those who should not. Such courses have a well-researched history of replicating and extending educational inequities. Other disciplines view foundational courses as ‘deep roots’ experiences; expected to successfully introduce all students to their fields. It is important that students excel to the greatest extent possible in foundational courses, not merely pass them. Creating an equitable and inclusive campus environment requires some rethinking of expectations and design criteria for foundational courses.

**Prioritizing investment in foundational courses:** When a course is foundational, student learning in it has specific implications for future course taking and success in an academic program. Thus it makes sense for foundational courses to receive extra support in order to enhance student success.

Recognizing this, the UM Provost launched a campus-wide Foundational Course Initiative (FCI) in 2017. The FCI provides a model for supporting foundational courses, bringing together department instructional teams and educational professionals from Center for Research on Learning and Training (CRLT) in four areas: student support and classroom climate, pedagogy and instructional design, assessment and analytics, and instructional technology. This collaborative model requires departmental buy-in, and rewards it with substantially increased access to support resources.
Enhancing student success in foundational courses, especially as instruction shifts to online or hybrid modes, will require investments to be made at several levels. Departments may commit to this work by assigning additional faculty to high priority courses. Section sizes might be reduced if schools and colleges provide additional support for GSIs and undergraduate Instructional Assistants. Priority access to academic support services such as the Sweetland Center for Writing, the Science Learning Center, or the Engineering Learning Center might be provided. Valuable data about students and their course performance—such as the Foundational Course Initiative’s course performance reports—might be provided to departments and instructional teams. CRLT may be enlisted to provide additional feedback to instructors on how the course is proceeding from the perspective of students. Academic advisors might be alerted to pay extra attention to students, including additional check-ins during the semester.

**Insights from winter 2020 course evaluations:**

More details about winter 2020 course evaluations are provided in the appendix.

**Key points:**
- Many aspects of large and foundational courses were relatively successful in making the transition to emergency remote instruction. Student response rates were typical for a winter term, and overall scores for quantitative questions were essentially unchanged from prior winter terms.
- In lecture courses, 52% of students reported that the shift to remote learning made their educational experience worse; 26% felt it remained the same and 16% felt it got better.
- All large and foundational courses instructional teams should be provided with winter 2020 evaluation comments from the courses they are preparing for the 20/21 academic year. They should also receive summary information about student comments across all courses.
- Students provided many insights about specific elements of courses (lectures, discussions, office hours, assessments). These are taken into account in the recommendations below.
- Key positives include asynchronous recorded lectures, highly organized courses, and responsive opportunities for direct engagement with instructors and students.
- Key challenges for students include motivation, engagement, community support, and technology; all of which may be aided by having students close to campus in fall 2020.

**Insights from work with institutional data:**

More details about insights from work with institutional data may be found in the appendix.

**Key points:**
- Institutional data is a powerful tool for supporting the design of and assessing equity, inclusion, and student success in large and foundational courses.
● This data should be made available to instructional and student support teams in actionable formats as we work to support the success of our students during the 20/21 academic year.

● Institutional data from the Canvas Learning Management System can also be used to check in on student participation using the Student Explorer system. Use of this tool should be expanded during the 20/21 academic year, with advising offices encouraged to develop more intensive student check in plans, perhaps based on winter 2020 experiences like the LSA Roll Call project.

**General principles for large and foundational courses in the 20/21 academic year:**

● Equity, inclusion, and student success should be central goals and success metrics for all large and foundational courses. They should be examined across course modalities and among groups of students during this COVID year.

● Large and foundational courses should be supported to engage in a cycle of evidence-based improvement during the 20/21 academic year.

● Foundational courses should focus on effectively introducing students to fields rather than on ranking students.

● Instructional teams should be offered help in reviewing course designs and materials with equity and inclusion in mind, including cost and accessibility of course materials.

● Student engagement is key to success, and a focus should be placed on opportunities for social support and building connections to the university/program of study.

**Scenario 1: Hybrid instruction with most students close to campus**

**General assumptions:**

● Most enrolled students will be in residence at locations close to campus, able to engage with in-person small section meetings as public health circumstances allow.

● Some enrolled students will be restricted from joining in-person activities at some points in the term. This may include all upper division students during the first weeks of the term, and all students after Thanksgiving, as well as subsets of students quarantined or ill, possibly for weeks at a time.

● Some enrolled students will remain remote from campus for the entire term.

● Some members of the instructional team may be restricted from joining in-person activities at some points in the term. Some may need to remain remote from the campus for the entire term.

**Recommendations:**

We begin with a short list of recommendations which we take to be essentially required:

● ‘Large’ section meetings will take place in a fully online format throughout the 20/21 academic year. ‘Small’ section meetings may happen as in-person/hybrid or fully remote
formats as public health circumstances allow. Some ‘small’ section meetings may be
designated as fully online.

- Fully online (typically ‘large’) and possibly in-person/hybrid (typically ‘small’) sections of
every course should be defined by each school or college, in consultation with the
registrar and room scheduling, and fixed as such by a date to be suggested by the
Coordinating Committee.
  - Fully online course elements should be asynchronous, and must at a minimum
    allow for asynchronous participation with no direct grading penalty.
  - In-person/hybrid course elements will typically be synchronous, but must
    support remote asynchronous participation with no direct grading penalty.
    - In “hyflex” courses students may select in-person or remote participation
      for any class meeting and are expected to receive a closely comparable
      course experience.
    - “Hyflex” course design may be a goal, but should not be required.
- A list of ‘foundational’ courses should be defined by each school or college. These courses
  should be made eligible for focused support as recommended below.
- Examinations and other assessments for all courses with large sections will need to be
carefully redesigned for the 20/21 academic year

Our committee chose to group additional recommendations for large and foundational courses
under four main headings: principles of good design, structures of class meetings, presentation
and production, and assessment.

Principles of good design:

More extended descriptions and details of these recommendations on design principles may be
found in the Appendix.

- Focus on the ideas, concepts, and skills that are essential for students to learn in each
course.
  - Begin by listing the five to seven key concepts or skills students need to learn
  - Make key concepts visible to students throughout the course
  - Reinforce student learning in multiple ways
  - Align assessments with these course goals and incorporate flexibility
- Integrate inclusive teaching practices and access considerations in order to strive for
equity in all large and foundational courses.
  - Recognize and respond to the diversity of students in the course, e.g. consider
    offering special support for first year or transfer students early in the course
  - Cultivate academic sense of belonging, communicate high expectations and the
    belief that all students can succeed
  - Make explicit that struggle and even failure are important parts of the learning
    process, not a mark of a student’s deficiency
  - Prioritize transparency
  - Provide structure for interactions
  - Consider offering students multiple ways to demonstrate their learning
• Leverage the remote-learning framework to enhance the pedagogical framework and dynamically tailor course content to the needs of enrolled students.
  ○ Reform course content preparation to support remote learning
  ○ Adapt the pace of the course and its content
  ○ Attend to issues of basic access
  ○ Find ways to engage students in small-group discussions
  ○ Consider community-building activities at the beginning of the semester
  ○ Enhance impact of online resources by drawing on the research and practice experience of Michigan’s online education community (e.g. Online Teaching at Michigan).
• Build student engagement and personhood into the structure of the course.
  ○ Make the large class smaller, with special focus on small section meetings
  ○ Dedicate purposeful effort to recognizing students as individuals
• Provide a safe and supportive environment for both students and instructors
  ○ Build flexibility into the design, prepare course participants for this possibility
  ○ Be prepared to shift modes of instruction and communicate shifts with students
• Be especially mindful of time and effort demands being made on both students and members of the instructional team
  ○ Special care should be taken to ensure that GSI’s are well-supported, and that their time commitments are both well understood and within appointment appropriate expectations
• Prioritize consistent use of course design elements and tools to reduce ‘friction’ for students

Structure of class meetings and supporting interactions:

• Roles for members of large course instructional teams will need to be reconsidered for remote and in-person/hybrid instruction. Planning is also needed to accommodate the possibility of some instructors becoming ill or otherwise unavailable.
• Faculty should consider the substantial challenges for GSIs associated with running in-person/hybrid discussion sections. These instructional modes and technologies will likely be unfamiliar to many GSIs.
• Coordination among course elements must be revisited and enhanced: large and small section meetings, office hours from faculty, GSIs, and learning assistants, support from units like Sweetland and the Science Learning Center
• Fully online elements of the course should be asynchronous and uniform across all lecture ‘sections’. This both promotes equity and allows for more focused effort
• Large courses which meet only in large sections may wish to add small section meetings this year, especially for the purpose of providing community support for all students
• Large courses which meet only in small sections may also take advantage of the opportunity to utilize shared online resources, especially for the purpose of supporting equity across all sections
• Course instructional teams will need to establish tools for their own remote team coordination and planning meetings
Many ideas for specific course elements are emerging within the UM community, instructional teams should be connected with advice about these through communities of practice and training provided by Center for Academic Innovation (CAI) and CRLT.

- One or more ‘pre-class’ communications preparing students to anticipate the learning goals, structure, and pace of each course
- Mechanisms for hosting and recording office hours
- Ideas for reorganizing instructional teams
- Weekly organizational sessions for students (“Friday Focus” videos)
- On-ramp designs for gradually adding new elements to courses
- Self-evaluation and onboarding training for students with varying backgrounds
- Tools for helping students to prioritize use of course resources
- Technical recommendations for making recordings accessible to those with lower internet bandwidth

Building community will correct some of the most significant shortcomings of emergency remote teaching. Approaches include

- Structures for supporting in-class interactions
- Structures for supporting connections beyond class
- Consistent “on-line office hours” and “on-line coffee shop” time using multi-modal technologies
- In-class structures to create meta awareness of the importance of dynamic/interactive learning. For example, have students reflect weekly on questions such as: What did you learn from others? What did you contribute to the learning of others?
- Structures which allow students themselves to play leadership roles in building community

Consider whether in-person opportunities which are limited in availability might be prioritized for students who might especially benefit from them.

Consider how best to accommodate instruction if in-person activities ramp up slowly at the start of term, and then perhaps are ended several weeks before the term concludes.

Online instruction significantly limits student opportunities to form affinity groups through self-identification and social interaction. This is likely to more significantly impact historically marginalized groups within the university and within specific domains of study. Coordinating with university-sponsored special interest groups may support the formation of new remote structures for fostering affinities.

Presentation and Production:

- Content presentation (large lectures) should be online and asynchronous, prepared with attention to guidelines provided by CRLT and CAI teams, uniform across course sections, even in courses which traditionally include multiple lecturers.
- Sections initially delivered synchronously, in person or online (discussion sections, office hours, etc.) should also be made available asynchronously.
- Efforts should be made to minimize costs of course materials for students. This is a good moment to consider open educational resources.
• Tools used across LFCs should be standardized as much as is practical, following advice from CRLT and CAI. This includes discussion forums, in content quizzing, etc.
• Asynchronous skills training, expert problem solving, and other resources aimed at flexible student support should be developed and made available across all sections
• All online content should have access to guidance and support in achieving high standards of accessibility. Foundational courses should be prioritized for this support
• Recommendations for implementation
  ○ Faculty should know their course model (fully online or in-person/hybrid) as early as possible to provide time for necessary training.
  ○ Faculty should include a table of contents on Canvas sites to enable students to access material more readily.
  ○ Faculty should review methods of assessment and make sure they are realistic in terms of course goals.
• Standardized tools: support teams at CRLT, CAI, and in the schools and colleges should provide a primary recommended strategy and platform for key categories like those below. Training materials for instructor use should be made as easy to find and use as possible, and consultative support should be prioritized.
  ○ Lecture recording for asynchronous use: e.g. Zoom cloud recording with links, an easy, fast, and closed caption option. Lecture capture in originally assigned classrooms will likely not be possible during the 20/21 academic year, as classrooms freed up by moving large sections online may be reassigned for use by smaller classes.
  ○ Online synchronous meetings: e.g. Zoom meetings with breakout sessions
  ○ Office hours and one-on-one discussions: e.g. Zoom meetings with waiting rooms
  ○ Mechanisms for supporting asynchronous discussions and answering questions so that all students can see the answers.

Assessment:

More details of these recommendations on assessment may be found in the Appendix.

• Foreground issues of equity in assessing student learning:
  ○ Consider that students working away from campus may face different challenges in accessing networks or materials.
  ○ Consider that students may be ill, or dealing with illness among family or friends and that these issues may affect a student’s ability to perform on an assignment or assessment, without necessarily relating to their understanding of the related material.
• Flexibility in assessment is important for equity. Consider the following:
  ○ Flexibility in when assignments are due, or allowing for students to submit assignments at their own pace.
  ○ Expanding the time frame in which exams must be completed.
  ○ Expanding the range of assignments types.
  ○ Avoid putting too much weight on a single element of the course, such as a final exam, which might limit flexibility.
Do not assign grades/points for attendance or penalize students for missed class sessions.

Any added flexibility should not come at the cost of transparency or equity. Make sure all students have equal access to deadline extensions, and that the guidelines are clearly described.

- Assessment should be transparent. Students should understand how they are being assessed, when they are being assessed, and how assessments tie in to course learning goals in order to promote students’ engagement and learning.
- Academic integrity should be maintained at high levels:
  - Wherever possible, courses and programs should strive for more authentic or integrative forms of assessment, as opposed to assessments where answers are easily found online or shared among students
  - Schools/units should reassess their statements of academic integrity and/or honor codes and how students are made aware of practices at the school and course levels.
  - Avoid escalating conflict with students around cheating, and do not assume that a move to remote assessment necessarily means that more students will cheat.
  - The use of plagiarism and proctoring tools should follow the custom of the school or unit. Keep in mind that these tools often introduce equity issues with respect to technology requirements.
- Consider moving towards competency- or mastery-forms of grading and recording/reporting student learning.
  - For foundational courses it may be particularly important to employ modes of assessment that allow for granular communication about what a student knows and is able to do. Planning for the delivery of subsequent, more advanced, courses will be more successful by knowing more than that a student earned an “A” or “B” in a foundational course.
  - Grading systems should ideally measure what a student has learned, as opposed to how a student compares to other students in the course.
- Develop or utilize mechanisms that allow for earlier and more frequent/granular tracking of student progress, to identify students who may be struggling early.
- Create multiple opportunities to learn how a course design is working for students. Instead of waiting for end-of-course evaluations, consider more frequent check-ins with students, asking “What if anything is standing in the way of your success in this course.” Consider using automated means of gathering this information anonymously.
- Planning should assume that courses may become remote after Thanksgiving, and that all final assessments will take place remotely
- Assume that there will be no mid-semester changes to grading schemes (as there were in Winter 2020). Therefore it is important that grading systems be planned with forethought about variations in how the semester may evolve or end and the grading system is clearly articulated at the beginning of the course

**Scenario 2: Fully remote instruction with few students close to campus**

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General assumptions:

- Few enrolled students will be in residence at locations close to campus, and none will be able to engage with any in-person meetings.
- Subsets of students may need to step aside from class participation during the term, possibly for weeks at a time.

Recommendations:

- All section meetings of all courses will meet fully online.
- Asynchronous (typically 'large') and possibly synchronous (typically 'small') sections of every course should be defined by each school or college, in consultation with the registrar, and fixed as such by a date to be suggested by the Coordinating Committee.
- A list of ‘foundational’ courses should be defined by each school or college. These courses will be eligible for focused support as recommended below.
- Large sections of courses should be asynchronous, and must at a minimum allow for asynchronous participation with no direct grading penalty.
- Small sections of courses will typically be synchronous, but must provide support for remote asynchronous participation with no direct grading penalty.
  - In “hyflex” courses students may select in-person or remote participation for each class meeting and are expected to receive a closely comparable course experience.
  - “Hyflex” course design may be a goal, but should not be required.

All of the additional recommendations made for course design in the in-person/hybrid circumstances of Scenario 1 are fully applicable in a fully remote Scenario 2.

Supporting the design and delivery of large and foundational courses in AY 20/21:

As noted in the introduction, transitioning more than 700 large courses from traditional classroom instruction to either in-person/hybrid or fully online instruction is an enormous task. Providing support for this task might be compared (ironically) to teaching an array of complex subjects to a very large class of diverse students on a very short timescale.

Our task is to quickly establish a large, equitable, inclusive foundational course in the design and delivery of online and in-person/hybrid instruction. Such a ‘course’ is not just lectures, a syllabus, and a list of assignments: it’s a learning environment, organized and led by a multi-generational team of role diverse experts, with many elements of support and opportunities to practice provided to the learners.

To successfully accomplish this goal, we will need to draw on the expertise, effort, and resources at four levels of campus organization: the central administration, each of the schools and colleges, each department or program, and every instructional team. The recommendations which follow are organized at these levels. In each case, we describe forms of support which should be made available to the instructional teams of every large course, along with some for which foundational courses should receive priority access.
Preparing equitable and inclusive large and foundational courses for the 20/21 academic year will require truly substantial new work. The vast majority of this work will have to be undertaken by existing University of Michigan faculty, students, and staff. Because the effort required goes substantially beyond what is needed to prepare for a ‘normal’ term, most of the individuals involved will need to temporarily prioritize teaching activity over other aspects of their work. Campus leadership should play a leading role in expecting, enabling, and rewarding this temporary shift in priorities.

- We recommend that the Provost encourage and enable every level of the campus to invest in design and delivery of fully online large courses during the 20/21 academic year. Openly recognizing that expenses associated with this work should be considered ‘essential’ and authorized would be an important step.
- Given the importance of foundational courses, we recommend that the Provost encourage prioritized investment in this subset of large courses.

We imagine the work required to support the development and delivery of large and foundational courses as being mobilized in three main stages.

1. July-August 2020: support the design work needed to transition all large sections to fully online instruction and their accompanying small sections to in-person/hybrid modes.
2. August-October 2020: focus support on delivery and adaptation of these new course designs, monitoring student success, gathering student feedback
3. November 2020 - February 2021: support iterative improvement of course designs for winter 2021, adapting elements to evolving public health conditions as needed

Support from units of the Provost’s office:

From the start of the COVID crisis, the Center for Research on Learning and Teaching (CRLT) and the Center for Academic Innovation (CAI) have been working closely to provide training and consultative support for instructional teams across campus. In addition, Information Technology Services has played a central role in supporting many aspects of the transition to emergency remote teaching. These units should accelerate their support in several key areas. Expanding capacity for this work may require additional staff and other resources, and we encourage the Provost to invite requests for support from these units.

- Continue to develop scalable training resources through the Online Teaching at U-M site
- Continue to develop added capacity for digital media production, including studio kits that can be used at home to produce quality content
- Develop an office hours cadence and other consultative opportunities through and beyond the summer to support faculty in their planning efforts
- Work with schools and colleges to develop and coordinate appropriate communities of practice for members of the instructional teams of large and foundational courses through these three periods of support
- Build on the experience of the FCI to focus central support on a group of foundational course instructional teams during the summer and fall of 2020.
Selection of these target courses should prioritize working with instructional teams able to demonstrate commitment from individual members, their departments or programs, and their school or college.

This effort should aim to support a significant fraction of the university’s 100+ foundational courses. We suggest at least 30 courses as a goal.

- The FCI team should work with the UM Institutional Learning Analytics group to make ‘course reports’ which focus on equity and inclusion available to every large and foundational course instructional team.
  - During the year, the FCI and UMILA teams should work with CAI’s software development team to implement these expanded course reports with the Atlas tool
- The ITS teaching and learning team should expand the use of the Student Explorer tool, so that instructional teams and academic advisors can use it to support students in large and foundational courses during the 20/21 academic year.

Support from schools and colleges:

- Our schools and colleges should direct their instructional support units to focus significant attention on preparing large and foundational courses for the coming year.
- The first step in organizing this support might be created around the process of defining the list of large and foundational courses for each unit.
- Many large sections are currently scheduled for rooms which could support ‘lecture capture’. Because smaller courses may now be rescheduled into these rooms for social distancing, these sections will not be able to use this production mode. To meet this production need, schools and colleges should coordinate with CAI to establish a networked set of digital media stations and a scheduling and support model to help faculty and instructional teams to efficiently create quality content and digital assets.
- Schools and colleges should work with CRLT to develop and coordinate appropriate communities of practice for members of the instructional teams of large and foundational courses through these three periods of support.
- Schools and colleges should recognize the importance of building community in large and foundational courses, and prioritize support for activities which promote this.
- Where possible, schools and colleges should prioritize investment of teaching resources (GSI positions, support for undergraduate learning assistants) on foundational courses.
- Schools and colleges should ask their academic advising units to develop plans for increasing attention to student progress and success during the 20/21 academic year. This may include enhancing faculty-driven student reporting systems, utilizing the Student Explorer system, or establishing direct connections with instructional teams of the most important large and foundational courses.
  - These reporting systems should focus particular attention on students who are new to campus, including first year undergraduates, first time transfer students, and first year graduate students.
Support from departments and programs:
- As they participate in identifying large and foundational courses, departments and programs should consider committing additional teaching resources to large courses, and place special priority on foundational courses.
- Departments and programs offering large and foundational courses which meet only in (now fully online) large sections should consider restructuring courses to include smaller discussion or recitation sections.
- Focusing teaching resources on large and foundational courses may require departments and programs to reconsider low enrollment and fully elective course offerings during the 20/21 academic year.

Support from instructional teams:
- Instructional teams for large and foundational courses should also consider ways to reorganize and expand capacity during the 20/21 academic year.
  - Courses currently taught with multiple large (now fully online) lecture sections should consolidate them, potentially freeing up instructional team members to focus effort on other aspects of course design.
  - Instructional teams should consider ways to utilize the effort and expertise of more advanced undergraduate students as members of their instructional teams.
Appendices and supporting documentation:

Additional files provided:
1. Large course list: summary of all fall 2019 courses with section offerings and enrollments
2. Class size figures for each school and college, and for first and third year students

1: More details about insights from the winter 2020 course evaluations

The LFC committee received access to student evaluation information in mid-May. Since that time we have also taken advantage of early analysis provided by Lisa Emery in the Registrar’s Office to gain some insight into student views. The key insights above are largely derived from that analysis. With the help of Professor Rada Mihalcea and her team, we have also launched additional analyses of these comments through Natural Language Processing techniques. Early results from this work can be found in this report. It is our plan to provide course design teams with evaluation information from their own course along with insights learned from other large and foundational courses.

A majority of students report that the transition to remote teaching affected their experience in the course negatively, with some completely disengaging from the course. Reasons for this were varied. A few students reported that the course stopped offering lectures altogether and relied exclusively on student assignments. A number turned exclusively to recordings of prior year’s lectures.

In many very large courses, lectures were recorded and shared with students for asynchronous viewing. Many students appreciated this format, with some students even indicating a preference for the asynchronous lecture format over the in-person one, especially because of its convenience and flexibility with respect to scheduling. Another trait common to many courses, almost always positively received, was added flexibility around the timing of assignments and exams that many faculty offered.

Smaller courses (50-100 enrollment) were more likely to attempt their lectures in live video-conference. While this format feels familiar to instructors, it presents challenges for students, who may (for example) be prevented from attending live by glitches in technology or many hour time zone differences.

In large courses, students regularly report how critical virtual office hours have been in the remote-teaching setup, and how they were a key component in supporting their engagement and participation in the course. In some cases, students indicate to prefer virtual office hours because their structure and organization allowed for shorter waiting time and eliminated commute time.

The biggest challenges reported in student evaluations relate to the complexity of juggling the short-notice reorganization of all their courses, including format, assignments and deliverables. This complexity was magnified because courses often adopted very different solutions, suggesting that some consistency would be valued. Finally, and perhaps most consistently,
students complained that staying engaged in their academic coursework was challenging, especially as they relocated away from the campus community, isolated from other students, instructors, and campus support mechanisms.

2: More details about insights from working with institutional data

Since the launch of the UM Learning Analytics Task Force in 2012, our understanding of large and especially foundational courses has been greatly advanced through analysis of institutional data\(^1\). These analyses provide instructional teams with deeper insight into the backgrounds, interests, goals, and ultimate majors of their students through tools like Atlas. They support continuous monitoring of student engagement and progress through the Student Explorer tool. They also reveal serious problems with equity and inclusion across a wide array of foundational courses\(^2\). These problems helped to motivate the launch of the FCI, and the multi-institutional Sloan Equity & Inclusion in STEM Introductory Courses (SEISMIC) projects\(^3\). Equity and inclusion analyses of this kind should provide a focus for the design, delivery, and assessment of LFCs during the 20/21 academic year.

All large course teams should be provided with an expanded version of the “course report” currently provided by the Atlas tool. Extensions to this reporting should mirror those developed for FCI course reports. An example of such a course report has been provided for the committee’s use. The most important additions involve measurements of equity in student performance across intersections of gender, race, income, and first generation status. The focus on equity and inclusion in our committee charge is plain. Well established evidence of the differential impact of the COVID crisis on these communities makes enhanced and actionable monitoring of these equity measures especially important during the coming year.

In addition, all LFC instructional teams and every school’s academic advisors should take advantage of the Student Explorer tool for near real-time monitoring of student engagement and performance. This work should be part of a larger effort to keep a more careful eye on the progress of every student during this COVID crisis.

3: More details about good design principles:

- **Focus on the ideas, concepts and skills that are essential for students to learn in the course:** Foundational courses are designed to introduce students to fields so they will be prepared to move forward in a given discipline or, at least, have a basic understanding of it.
  - **Begin by listing the five to seven key concepts or skills students need to learn:** Thinking of a foundational course in terms of a manageable number of

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goals rather than adopting the “coverage” model can make pedagogical decisions relatively easy. Rather than requiring students to memorize a large number of small bits of information or process data in “plug and chug” fashion, focus teaching, learning, and evaluation on the big ideas.

- **Make key concepts visible to students throughout the course:** Tell students what they need to learn and what materials and tools will help them do so. Repeating this message frequently and consistently can improve students’ performance in the course and in their understanding of the field they are studying. For example, introduce a lecture or a demonstration with a brief explanation of what students should know at the end and how that knowledge connects to a key concept in the course.

- **Reinforce student learning in multiple ways:** incorporate low-stakes as well as high-stakes demonstrations of learning into the plan for assessment, and use low-stakes measures to determine where students have misconceptions or do not fully understand key concepts. For example, ask students to apply a key concept to a real-life situation by writing a paragraph or two. Have students read one another’s writing and identify gaps or misconceptions, and validate these problems by scanning or having a course assistant scan the writing to identify common problems. Then address these problems in a future class.

- **Integrate inclusive teaching practices and access considerations in order to strive for equity in all large and foundational courses:** Inclusive teaching involves purposeful design that foregrounds transparency, fosters an academic sense of belonging, and attends to systemic inequalities.
  - **Cultivating Academic Sense of Belonging:** In all courses, but foundational courses in particular, it is important to engage in teaching practices that help promote a student’s sense of belonging in the class and the discipline. That can be achieved by communicating high expectations and the belief that all students can succeed and making explicit that struggle and even failure are important parts of the learning process, not a mark of a student’s deficiency. Cultivating community among students and with students can be achieved by providing opportunities to learn each other’s names and pronouns. Recognizing any prior skills or knowledge helps value that background at the same time that it allows for teaching that meets students where they are.
  - **Transparency:** Research shows that transparency in teaching increases all students’ learning. It also minimizes barriers posed by a ‘hidden curriculum,’ that is, the assumptions that students already know how to navigate college classrooms and higher ed spaces. Transparency in teaching also contributes to student academic confidence, promotes a sense of belonging, and promotes student self-efficacy and agency in their learning. This is true for all students, but particularly so for first-generation, underrepresented and minoritized students. Transparency can take the form of discussions about best learning and study strategies, the sharing of instructor expectations and assessment practices, as well as clear signposting that highlights the target learning and skills.
Structured interactions: Inclusive teaching in both online and face-to-face classrooms requires purposefully designed, structured interactions that do not default to patterns of privileging already-privileged voices or to otherwise enforcing systemic inequalities. Structured interactions that promote inclusivity can take the form of discussion guidelines or community agreements about interactions during class, time for reflection about the group work or key learning, the use of writing to provide all students time to prepare for a given discussion, and mechanisms that ensure equitable airtime during those discussions.

Access: Taking the Universal Design approach to course design and teaching will ensure that all students can learn. That approach includes ensuring logistical access (audi-visual and space accommodations) as well as offering students multiple ways to demonstrate their learning. Additionally, it is important to attend to issues of basic access given that our students may be in different time zones, have varying degrees of access to technology or space, and different constraints related to the pandemic.

- **Leverage the remote-learning framework to enhance the pedagogical framework and dynamically tailor course content to the needs of enrolled students.** Remote-teaching presents unique opportunities that should not be missed, and challenges that should be moderated. UM public-health informed semester presents multiple benefits over online courses, including the opportunity to adapt the course content dynamically, based on students’ understanding, and that of developing 1-1 relationships with the enrolled students, thus greatly boosting their participation, engagement and learning.
  - **Course content preparation:** Rather than pre-recording complete lectures ahead of the semester’s start, we recommend the development of several short (<10 minute) videos. Each segment should focus on a single course-concept, present a tutorial that covers background or a framework that students must employ in their coursework, work an example problem, or discuss a case study. Videos can then be assigned during the semester at a time that works best with the class progress. Short videos are also best fit to grab students’ attention over long lectures.
  - **Adapt the pace of the course and its content** to students’ understanding and feedback throughout the semester. Lectures offered during the semester are easily adaptable to students’ needs and interests.
  - **Attend to issues of basic access,** considering that students may be in different time zones, have varying degrees of access to technology or space, and different constraints related to the pandemic. For instance, organize the office hours schedule to accommodate many time zones, and record your live lectures so that students can participate on their own time. Beware that the times/day of official class meetings are regulated by the registrar’s office and cannot be altered at will, without disrupting students’ participation schedule. Make sure that any tool or software infrastructure employed for student learning is accessible by all students, independently of their location, including international locations.
  - **Find ways to engage students in small-group discussions.** This practice would create personal connections between students and instructors and among students, to help overcome the lack of opportunities to talk in/before/after class.
In addition, in case the offering is in hybrid format, strive to ensure that the class has at least some in-person meetings with students groups of sufficiently small size that meetings can be in-person.

- **Consider community-building activities at the beginning of the semester**, so that enrolled students can get to know each other and the professor (e.g. outing at theonline.town)

- **Build student engagement and personhood into the structure of the course.**
  Lack of motivation, feelings of anonymity, and high rates of attrition characterize most online learning, so commitment to and explicit strategies for helping students to participate actively and feel that they are valued as persons will be essential.
  - **Make the large class smaller**: Because students will have fewer opportunities to get to know their classmates, they will need class structures that bring them together regularly. This could take the form of assigning everyone in the class to a group and then assigning groups problems to be solved or concepts to be developed. Groups could remain constant or shift across the semester. Students could be invited to volunteer (and receive extra points) for leading an assigned group. Groups could compete with one another for special commendation or prizes or points. Whatever the approach, the key is to require that all students engage with their peers rather than assume they will find their own groups.
  - **Dedicate purposeful effort to recognizing students as individuals.**
    Online instruction leads most naturally to feeling of anonymity among students, so try to acknowledge them as persons as much as possible. Using students’ names is one way to start. Possibilities include asking students to include their names when they ask a question and then using the name in answering; using names in common to elicit responses, as in “Can one of the four Joe’s in this class answer?” or greeting by name a dozen or so students at the beginning of each session. Another strategy is to pose questions that ask students to identify some of their interests and abilities. For example, “How many of you play a musical instrument?” “How many of you have registered to vote?” “How many of you can swim a mile?” along with questions that relate directly to aspects of course material.

- **Reconsider assessment practices in ways that focus on essential knowledge and skills.**
  - **Align assessments with essential concepts and skills and incorporate flexibility.** Where possible, instructors should consider moving towards competency- or mastery-forms of grading for student learning. Assessment should be as transparent as possible. Students should understand how they are being assessed, when they are being assessed, and how assessments tie in to the course learning goals in order to promote students’ learning. In addition, flexibility should be built into assessments with an understanding that students both on and off campus may face challenges in completing assessments.

- **Provide safe learning environment for students and instructors**
- **Design course in a flexible, public health informed manner.** Any in-class activities will need to occur in a public health informed manner using several layers of safeguards to protect students and instructors. Some students and instructors will be unable to attend in-person course activities in the fall. In addition, if course activities begin in an in-person format, they may need to quickly move to a remote format based on the evolving pandemic. Courses will therefore need to be designed and implemented in a flexible manner to maximize safety and access and to accommodate any needed changes over the course of the semester.

4: **Discussion of Mechanisms or Vehicles to Improve Classroom Assessment**

In the discussion of “what to do about grades” during the rapid change over to remote instruction in Winter 2020, a frequently-voiced argument for maintaining the established A-F grading system (and not switching to P/NC) was that students would lose their motivation to work without a letter grade. And indeed, this seemed to be the case for many students. This reality indicates a deeper problem with the design of assessment systems in higher education. If students are more motivated by the *grade* than by what they stand to *learn*, we have a problem. At the very least, the problem is that student motivation to learn is fragile, and liable to disruption when circumstances change.

One way to address this problem is by redesigning assessment systems to focus on *competency* or *mastery* (these terms are often used interchangeably and the preferred term varies by discipline). Mastery-based grading systems emphasize learning over ranking, supports individualization or personalization of learning, and has the potential to greatly increase the amount and depth of information available about student progress and accomplishment.

A shift to mastery-based learning represents a large investment, not just in the time needed to rethink, re-align, and redesign assessments, but also in the development of mechanisms for recording student learning such as new forms of grade books and new forms of transcripts. However, there are a number of tools and pedagogical approaches currently available or under development that can provide many of the benefits of mastery-based learning now.

One such approach that is a stepping stone to mastery-based assessment is *gameful learning*, which is supported by GradeCraft, a tool that integrates with Canvas, and is supported by both the CAI and CRLT. A class designed to be gameful emphasizes progress towards class learning goals. Instead of trying to maintain a high average score across assessments, students begin with “zero” and as they demonstrate proficiency through completing assignments, earn points towards a goal state. Gameful learning emphasizes autonomy, providing students with a choice of assignments that all meet the same learning goals. This could be useful in accommodating a range of student learning contexts if learning is remote. In the rapid shift to remote learning in Winter 2020, many faculty using GradeCraft and gameful learning reported an easier transition, because their grading systems and expectations were already highly explicit and transparent, and students could take advantage of the built-in flexibility to reflect their different circumstances.
Another key principle to promote student success is to more closely monitor/track student progress throughout a course, rather than waiting for high-stakes assessments such as midterms or final exams. GradeCraft/gameful learning provide one such granular tracking vehicle. Another may be a tool like Student Explorer (supported by ITS), though its functionality would require expansion. Other tools designed to help instructors respond to variable student performance include eCoach, which tailors feedback to support student success. Finally, there may be a number of student advising systems, including student “dashboards” of success or comparative progress through a course, that can be employed or enhanced to give instructors and academic advisors more frequent feedback about how students are doing in their coursework, helping to identify students who need help early.
Resilient Instruction for Performance, Studios, and Labs

1. Executive Summary

Curricular courses in the areas of performance, studio, and laboratory (P/S/L) showcase the true essence of a Michigan education centered on high caliber in-person experiential learning. Nearly half of all students (undergraduate and graduate) engage in P/S/L coursework during any one term. These courses are challenging, if not impossible, to recreate in a remote learning format and hence, as reflected by student evaluations, were the most adversely impacted in WN20. Because of their dependence on physical materials, equipment and space, moving P/S/L courses to remote operation poses significant challenges including problems of equity as not all students have adequate resources in their home environments. Many P/S/L experiences rely on face to face interactions and feedback, the loss of which disadvantage all students, but some more than others, thus exacerbating inequities. Our committee unanimously agreed that these courses should be prioritized for adequate levels of in-person learning experiences, above courses not requiring this level of contact. Our campus collectively acknowledged that continuing research in-person is critical to our university’s mission; we believe the orchestration of P/S/L coursework is also critical and without it we would jeopardize our leadership in higher education.

With appropriate support, some lab and studio courses can achieve many of their learning objectives under a limited residential model by using methods such as video tutorials, interactive simulation, virtual modeling, and data analysis. Many others, however, center on material making, physical prototyping, and even dexterous pre-clinical work requiring people to interact closely. This makes a limited residential model inadequate and in some cases impossible. Remote instruction poses some of the most acute challenges for performance courses that are by nature collaborative and site dependent and it may not be possible to achieve many of the learning objectives unless some in-person instruction can occur.

We acknowledge that these courses may also present some higher risk of disease spread. Our recommendations and next steps center on the principle that with risk mitigation, the benefits of these modes of education, to both students and the institution, will substantially outweigh the risks. We are cognizant that following public health guidelines are critical to the success of P/S/L courses in the Fall term.

Our highest level priorities center on approaches that uniquely characterize P/S/L coursework. Many recommendations that could apply to other instructional modes may also apply to aspects of P/S/L coursework and we elected to not focus on these due to space limitations. The current recommendations focus on the optimal employment of public health guidelines to support P/S/L activities such as distributing PPE and facility modifications as well as expanding schedules to accommodate lower density instruction. For entirely remote as well as hybrid approaches a large number of our recommendations center on teaching virtually using existing tools and methods including Zoom, BlueJeans, Canvas and LinkedIn Learning. We also recognize that challenging times bring out opportunities to accelerate innovation by generating new educational technologies or using technologies in new ways to support distance learning. This is the time to improve the quality of live rehearsal via low latency audio conferencing, to expand creativity with technological approaches for virtual demonstrations of visual art and design methods, to promote the development of high quality virtual science labs and remote webcam documentation, and to fast-track new XR pedagogies and educational technologies.
Integral to our work was the creation of an online searchable database of recommended instructional delivery approaches and related support. Individual faculty, as well as disciplines and units, can operationalize this database to identify their best path forward for delivering P/S/L coursework in the upcoming academic year. These can also be used to formulate communities of practice around the preferred P/S/L pedagogies, bringing together key faculty and expert staff to accelerate their adaptation and continued improvement.

The challenges we face in implementing this vision center on being able to deploy suitable public health measures. With strong conviction for conducting in-person on-campus instruction and likely limitations based on public health measures, we envision activating some or all of the methods described in the report and appendix. We highlight the pressing need for selected modifications in our physical facilities and the challenges that modifications may present in our current procurement and construction landscape and hence request that consideration of key modifications be prioritized. We also suggest that the proposed guiding principles as endorsed by central administration are communicated consistently to avoid inequitable deployment across disciplines and units.

The issues surrounding equity cannot be understated especially in the area of P/S/L coursework where space, materials, and human feedback are cornerstones. Hence we strongly suggest that this be a continual guidepost to next steps of this work. Insufficient student access to technology and reliable internet requires mitigation strategies. Equity relative to access and availability of space where learners engage in P/S/L work is critical.

We are fortunate to have a highly committed faculty who allow us to remain cautiously optimistic that the vital learning experiences that performance, studio, and laboratory coursework provide, and are a hallmark of our institutional core mission, will remain active in the Fall of 2020 and Winter of 2021.

2. Overview

a. Planning Committee overview/introduction
On April 30, 2020 Provost Collins distributed the charge for the Committee on Performance, Studio, and Lab (P/S/L) Courses for Fall 2020. The stated purpose was to develop pathways to enhanced remote teaching (and beyond that resilient teaching) for course types that rely most heavily on in-person and/or facility-based instruction, such as performance, studio and lab-based classes. Six objectives included:

- Gather information about how these types of instruction have fared under ‘emergency remote’ modes in Winter 2020;
- Brainstorm creative thinking to address the challenges that have been encountered and/or can be anticipated in both fully remote and restricted in-person contexts;
- Recommend options for each of these, and identify the IT and academic innovation support needed to improve offerings in these three key areas under both scenarios.
- Consider classroom and space utilization issues for restricted in-classroom that will allow courses to be nimble in ability to pivot between in-classroom and remote instruction
- Ensure courses are delivered in an equitable and inclusive manner
- Coordinate with other instruction-focused committees

On May 17 (updated May 22), the committee was provided with guidelines for the final report which is based on a series of recommendations and a list of questions/topics to address with each recommendation presented in either a Hybrid/Hyflex or a completely Remote model. The committee met on numerous occasions; in part prior to April 30 (jointly and in separate subgroups to which a preliminary report was provided to the Provost on April 28 and later to
APG), as well as with the entire component of membership after April 30 (jointly and in subgroups). All members also worked individually on specific recommendations. The report follows recommendations that can be found in a database that is user-friendly and provides additional resources. Since guiding principles and assumptions are fairly pervasive through the set of recommendations, they are presented here (vs. in each recommendation).

Several data sources were utilized to formulate the recommendations highlighted in this report and can be found in the appendix. The Registrar’s Office assisted in collecting information on enrollment in P/S/L courses which can be found here. Notably 47% of all students on the Ann Arbor campus were enrolled in one or more P/S/L courses in WN2020. WN2020 teaching evaluation results were reviewed and demonstrated that the unexpected change to remote course format affected the learning experience most negatively (62%) for courses designated ‘Lab’. In April and May, a series of short surveys were distributed to instructors of Lab, Studio, and Design courses and both quantitative and qualitative data can be found here. Initially these focused on units with known high levels of these courses and subsequently the Deans of all 19 academic units had the opportunity to share the survey with relevant individuals in their units. In response to the question 'what would you need to properly plan for the online course you taught in WN2020?' the most common responses were 'Better/more technology for instructor' (31%), 'Technology/software/access for students' (20%), 'Rethinking or restructuring' (20%), 'Additional person power' (19%). The theme with the least responses was 'Faculty funding or course releases' (3%).

Importantly, courses in the P/S/L space are extensive and provide a 'high touch' experience for our students. With appropriate support, many lab and studio courses can achieve many of their learning objectives under either a limited residential or a fully remote scenario by using methods such as simulation, virtual modeling, and data analysis. Many others, however, center on material making, physical prototyping, performance, or pre-clinical lab work and are very difficult if not impossible to deliver successfully in a fully remote scenario. Thus recommendations under scenario #2 are less robust. Issues around equity are particularly critical in the P/S/L space. The well documented educational inequities that arise in online environments are likely exacerbated in P/S/L online activities because of the difficulties in effectively translating those activities online, and because students who do not have supportive, private or secure home environments will almost certainly have more difficulty doing activity that entails materials, equipment and space.

The committee originally came up with 25 recommendations most of which had a dedicated application in the hybrid as well as remote setting. We have collated these into three overall categories:
  (1) Methods that support hands-on learning and skills acquisition
  (2) Methods that support group work, teamwork, and peer-to-peer learning
  (3) Methods that promote safety in the environment where this takes place

Recommendations are presented according to the guidelines for reporting. Adjacent to recommendation titles are tags to indicate priorities. Those that are high priority are designated in green; medium priority are designated in yellow. Initials signify the type of courses: P-performance, S-Studio, L-Laboratory, H-Hybrid, R-Remote. For example, the tag PR – signifies this recommendation is a high priority for performance in a remote learning operation. All members viewed and commented on the final report.
**Guiding Principles**

- Anything that can be fully remote should be fully remote to optimize space for activities which require in-person opportunities.
- Time, space, resource allocation should prioritize work in the performance, studio, laboratory realm that cannot be delivered remotely.
- Course and space designation should take equity and accessibility for all students into consideration.
- The integrity of the subject being taught should be preserved. The caliber of instruction should not be compromised and standards still need to be met.
- There is no such thing as a zero risk – decisions should be made considering the risk/benefit ratio such that the benefit is greater than the risk and optimal risk mitigation should be in place.
- The curriculum should be delivered with compassionate rigor – maintain high standards as we also show compassion and concern.
- Effective, comprehensive, and thoughtful communication across the community (faculty, staff, and student groups) is integral to success.

**Assumptions**

- Students have adequate infrastructure to receive curricular elements (e.g. consider all students have laptop/ipad or appropriate device for a hybrid or remote scenario and internet connectivity)
- Facilities can accommodate or be modified to deliver curricular elements safely and effectively
- Accommodations can be made for student and/or faculty absence/illness as needed
- Public health guidelines are feasible, clear, well communicated, and supported with metrics
- There are sufficient numbers of instructors (faculty, grad students, staff) to operate necessary courses
- Instructional faculty and staff in P/S/L hybrid courses are aware of the potential need to shift to a remote platform if needed during the term
- UM EHS (environmental health and safety) will review all P/S/L course plans to assure safety in the spaces they will take place

**b. Committee membership**

**Committee Members**

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<tr>
<th>Laurie McCauley</th>
<th>Jonathan Massey, Co-Chair</th>
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<tr>
<td>Dean and William K and Mary Anne Najjar</td>
<td>Dean and Professor of Architecture and Urban Planning</td>
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<td>Marcus Ammerlaan</td>
<td>Bradford Orr</td>
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<td>Hiroshi Ikuma Collegiate Lecturer, Molecular, Cellular and Developmental Biology, Ecology and Evolutionary Biology</td>
<td>Arthur F. Thurnau Professor, Professor of Physics, College of Literature, Science and the Arts; Associate Director Michigan Nanotechnology Institute for Medicine and Biological Science, Medical School; Associate Vice President for Research, Natural Sciences and Engineering, UM Office of Research</td>
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3. **Scenario 1: Hybrid / Hyflex Instruction (or Operation)**

   Our recommendations for Scenario 1 overlap significantly with those in Scenario 2, because in both the goals and objectives are to permit students learning remotely to attain the learning goals achieved in face-to-face instruction. The primary difference is whether the remote learning is a portion of the class (Scenario 1) vs the entire class (Scenario 2). Recommendations are segregated into three categories of methods:

   (1) Methods that support hands-on learning and skills acquisition
   (2) Methods that support group work, teamwork, and peer-to-peer learning
   (3) Methods that promote safety in the environment where the P/S/L takes place
**Recommendation #1: Employ methods that support hands-on learning and skills**

At the heart of many P/S/L courses are active, hands-on learning activities. Students design, prototype, experience materials, create and perform. Among other things, these experiences are vital to:

- Promote deeper conceptual learning
- Teach lab protocols and etiquette expected in future work and study
- Practice experimentation, trial and error, and troubleshooting in real time
- Facilitate application of theory to actual practice and understand gaps between
- Manipulate materials, revise and test models
- Engage in kinesthetic learning
- Practice and perfect hands-on skills expected of the discipline

Many of these activities do not lend themselves to replication outside of the traditional learning space where they are taught and thus outcomes may be difficult to achieve in a remote scenario. A range of possible methods are presented here to support instructors and students as they work creatively to overcome these challenges. Some methods will allow classroom activities to be replicated in a remote structure; others propose reasonable substitutions.

**Create and assign video and online courses for skill development PS H&R**

Prerecorded tutorials can be utilized to demonstrate techniques, procedures, and processes. Video tutorials are beneficial in linking concrete events and phenomena to abstract principles and vice versa. An inherent advantage of video is that students can play the recorded material multiple times to facilitate study review hence accommodating a wide variety of learners. In some cases online video can be indexed to allow students to review specific topics more efficiently. Video can also be used to supplement lecture by providing exposure to experts, places, or performances that would otherwise be impractical.

The university has a license with LinkedIn Learning that enables all UM faculty, staff and students to access its library of over 5000 titles of on-demand short courses and tutorials in a wide range of topics, including many of the software skills needed by students pursuing hands-on work in engineering, architecture, art and design, and related fields: Excel, InDesign, Illustrator, Revit, Grasshopper, and other tools. It is an established supplement to existing academic coursework, and more widespread adoption could facilitate hybrid or remote instruction. The platform will be integrated into Canvas, and students can connect LinkedIn Learning histories and certifications from U-M with their personal LinkedIn accounts and carry the histories with them as alumni.

Other sources include Khan Academy, PBS Learning, UM Naxos Video Library of performing arts, and the UM Askwith Library which maintains a collection of more than 40,000 films, documentaries, animations, and educational programs. UM Libraries are the curators for sourcing many of these materials. These resources for instructional delivery are already widely available and there are minimal barriers to employing this approach extensively for fall 2020.
One of the challenges to using video tutorials is finding a video that matches the teaching objectives in a course. Faculty may consider creating original material that exploits the unique characteristics of a given discipline. Faculty who want to create videos should utilize central resources and support for video production, such as the Digital Media Commons. They should be attentive to accessibility issues in newly created material. The Student Services for Disabilities office, Library, and ITS have accessibility support services to assist in this area. It is also important to be sensitive to how well the subjects in the video reflect diversity and inclusion.

What is needed to implement the recommendation?
- Dissemination to faculty and students.

How feasible is it to implement this recommendation by the start of Fall 2020?
- Highly feasible on a widespread basis.

Do you think this recommendation should be the role of central administration or the unit(s)?
- Unit implementation.

Which unit(s) do you think will have primary responsibility for implementing this recommendation? Are they supportive of the recommendation?
- College of Engineering, Taubman College, School of Music Theater and Dance, Stamps School. These units support the proposal.

What are the biggest challenges units may face in implementing this recommendation?
- Eliciting faculty and student buy-in

What outstanding questions or issues do we need to be aware of?
- We would need to identify a business plan for allocating subscription costs.
- We do not see this pathway as an effective replacement for substantive credit-bearing learning at U-M, and we note the potential long-term risks of ceding a greater portion of our accrediting function to Microsoft Corporation.

What are the recommended next steps?
- Review with Center for Academic Innovation to assess how this pathway intersects with broader U-M academic innovation strategy.

**Augmented reality/virtual reality PH LH&R**

The university's Extended Reality (XR) Initiative establishes a framework for supporting faculty in developing new pedagogy and educational technology that uses augmented and/or virtual reality to enable distance collaboration in the creation and evaluation of architectural and urban design, physical prototyping, dance, and work in other spatial mediums. This may also have broad application as an introduction to U-M campus and its public health protocols.

Two promising pathways:
1. Target selected introductory courses and/or advanced courses for adoption of XR tools.
2. Create a universal XR introduction to the U-M campus and its public health protocols via simulated experience of our outdoor spaces, libraries and museums, classrooms labs and studios, buses and dining halls and residence halls and athletic facilities.

Examples/further information:
- Moduluc, Architecture and Design Schools Teaching VR, AR, or MR Technologies
- Visualization Lab, Duderstadt Center
- Dancereality app
- Educause XR Report
- UMSI Graduate Certificate in XR
- Dentistry, Virtual Dental Library
What is needed to implement the recommendation?
- Professional development for faculty and instructional technology staff; software and hardware for faculty and students; cleaning protocol for shared hardware.

How feasible is it to implement this recommendation by the start of Fall 2020?
- Highly feasible on a limited basis, establishing a group of flagship courses to set U-M units apart from competitors.

Do you think this recommendation should be the role of central administration or the unit(s)?
- Unit implementation with central support via the Extended Reality Initiative.

Which unit(s) will have primary responsibility for implementing this recommendation?
- College of Engineering, Taubman College, School of Music Theater and Dance, Stamps School, Dentistry, Nursing, Kinesiology. These units generally support.

What is needed to ensure public health requirements?
- Cleaning protocol to preclude viral transmission via shared hardware.

What are the biggest challenges units may face in implementing this recommendation?
- Eliciting faculty buy-in and aligning institutional support for professional development.

What are the recommended next steps?
- Refer to Extended Reality Initiative and VP James Hilton for consideration.

Equip students to learn at home PSL H SL R
Send kits of equipment and/or materials to students to maintain the haptic dimension of pedagogy in making-centered P/S/L courses. Examples include: portable tap floors, USB microphones, other recording equipment, kits of tools and materials for object-making assignments, “kitchen table” lab kits, 3-D printers, circuit boards, sending home technical equipment, e.g., dental handpieces to practice skills on artificial teeth. One Engineering design course assembled and mailed kits for students for WN2020; others have estimated future costs.

What is needed to implement the recommendation?
- Purchase of ‘take home’ kits
- Monitoring of potentially costly university property off site

How feasible is it to implement this recommendation by the start of Fall 2020?
- Highly feasible on a limited basis, dependent on availability of materials.

Do you think this should be the role of central administration or the unit(s)?
- Unit implementation.

Which unit(s) will have primary responsibility for implementing this recommendation?
- SOD, yes. Likely others TBD.

What is needed to ensure public health requirements?
- If equipment is shared – will need to assure disinfection between users

What are the biggest challenges units may face in implementing this recommendation?
- Arranging new curricular approaches
- Designing new modes to evaluate products

What outstanding questions or issues do we need to be aware of?
- Would the cost of kits be assessed as a studio/lab fee, or incorporated as a normal cost of instruction?
- Safety/liability issues with some kits
- Mail delays for international students

What are the recommended next steps?
- Discussion among interested units
- Community of Practice for sharing ideas/strategies
Interactive simulations

Interactive simulations, especially those that are in the realm of STEM disciplines, can be an excellent mechanism for student learning. Using these tools, students may examine fundamental concepts, the properties and performance of components in realistic environments, and more. These tools can be used by students in a variety of laboratory contexts - to generate data in virtual experiments, develop procedural skills, prototype their design, etc.

What is needed to implement the recommendation?
- The university has access to many of these tools already, but certain courses may need to purchase/acquire software. Mechanisms are already in place for instructors to request such purchases, but additional costs may be incurred.

How feasible is it to implement this recommendation by the start of Fall 2020?
- Even if new software needs to be procured, implementation will depend largely on the abilities of the instructor to create learning activities in time for F20.

Do you think this should be the role of central administration or the unit(s)?
- Partnership

Which unit(s) will have primary responsibility for implementing this recommendation?
- Individual units or groups of units should be responsible for identifying and acquiring the tools, and assuring they are available and usable for learners.

What are the biggest challenges units may face in implementing this recommendation?
- **Instructors will need training** to design and implement interactive simulation into their courses that is meaningful.
- **Students on campus** have access to computer labs loaded with the appropriate software. No additional resources are necessary in this case.

What are the recommended next steps?
- Instructors of Laboratory and Studio courses should be incentivized to design learning activities that leverage interactive simulation tools to generate data in virtual experiments, develop procedural skills, prototype their design, etc. The university will likely need to invest funding for new software tools. The individual units or groups of units should be responsible for identifying and acquiring the tools, and making sure that they are available and usable for learners.

Screen recorders for drawing demonstrations

Screen recordings can be an effective means of demonstrating design and drawing techniques as well as conveying lecture information. Using the built-in screen and a stylus pen, users can create screen recordings that can be uploaded as a media file to Canvas or shared directly.

What is needed to implement the recommendation?
- Users need access to an iPad and stylus as well as internet connection to upload recordings. Similar drawings and recordings could also be made with a desktop or laptop computer and graphics tablet. Appropriate software will also be needed.

How feasible is it to implement this recommendation by the start of Fall 2020?
- Good feasibility for select courses.

Do you think this should be the role of central administration or the unit(s)?
- Unit implementation with IT support.

Which unit(s) will have primary responsibility for implementing this recommendation?
- College of Engineering, Taubman College, School of Music Theater and Dance, Stamps School. These units support the proposal.
What are the biggest challenges units may face in implementing this recommendation?
- Cost and distribution of iPads and stylus or similar equipment.
- Training for individuals to be effective users.

What are the recommended next steps?
- Units need to determine which courses would be appropriate for implementation.

Recorded lab demonstrations

Recorded laboratory demonstrations provide a substitute for situations when students cannot be present to perform or watch experiments, thereby freeing up lab time and reducing population density. They will be a valuable resource for students needing to quarantine during a term and/or due to decreased lab capacity. For substitution to happen, diligence will be needed to ensure presentations are effective. Stagecraft, lighting, sound and video quality are critical.

What is needed to implement the recommendation?
- To produce high quality recordings, professional recording equipment, trained personnel and possibly additional lighting will be needed.

How feasible is it to implement this recommendation by the start of Fall 2020?
- Feasible – much of this capability already exists at college or university level.

Do you think this should be the role of central administration or the unit(s)?
- Individual departments/instructors should be responsible for identifying which labs need recorded demonstrations. Colleges should be responsible for providing recording equipment and technical support.

What are the biggest challenges units may face in implementing this recommendation?
- Instructors will need training and expert technical support to ensure that laboratory demonstrations are staged and recorded in a manner that provides a high quality product that optimizes student learning.

Remote webcams for observing/monitoring experiments

Remote webcams are an inexpensive way to observe/monitor exhibitions, demonstrations, or experiments. Assuming adequate internet access, students would be able to participate in these types of activities.

What is needed to implement the recommendation?
- Webcams would have to be purchased and installed in the spaces where they are deemed necessary. Typical webcams are inexpensive, ranging in price from $20 for low resolution to $100 for a higher resolution surveillance camera.

How feasible is it to implement this recommendation by the start of Fall 2020?
- Assuming that they are in stock, the cameras can be installed quickly and be ready for the Fall.

Do you think this should be the role of central administration or the unit(s)?
- The individual departments should be responsible.

Which unit(s) will have primary responsibility for implementing this recommendation?
- The individual departments should be responsible for identifying locations, acquisition, and installation of the cameras.

What are the biggest challenges units may face in implementing this recommendation?
- Instructors will need training to design and implement learning activities that involve webcams into their courses that are meaningful.
- Students need to have access to personal computers with good enough processing speed and internet access.
What are the recommended next steps?
○ Instructors should design learning activities that leverage webcams to observe/direct exhibitions, performances, and experiments. UM will likely need to invest to cover camera hardware and installation costs. Instructors will need training to use the cameras and design meaningful learning activities.

Canvas Learning Outcomes - competency/skill based PSL H&R
Learning outcomes can be related to Canvas assignments, discussions, or assessments to track competency development, proficiency, and mastery. They could also be used by departments or units to track competencies more broadly related to academic programs.

What is needed to implement the recommendation?
○ Units and/or instructors would need to identify desired learning outcomes and integrate them into Canvas course sites.

How feasible is it to implement this recommendation by the start of Fall 2020?
○ Highly feasible.

Do you think this should be the role of central administration or the unit(s)?
○ Unit implementation.

Which unit(s) will have primary responsibility for implementing this recommendation?
○ COE, Taubman, SMTD, Stamps. These units support the proposal.

What are the biggest challenges units may face in implementing this recommendation?
○ It is likely that learning outcomes are already established, so implementation should not be a big challenge.

What are the recommended next steps?
○ Units need to determine which courses would be appropriate for implementation. This decision could also be left to individual instructors with encouragement and support from the units.

Virtual science labs LHLR
Virtual science labs help students participate in advanced reasoning without needing a physical science lab or access to equipment. Students participate in authentic learning at their own pace without peer pressure and can manipulate variables and record data, analyze and formulate conclusions. These may particularly benefit struggling learners and some students with disabilities. Importantly this can be an integral component of a hybrid scenario where some aspects are virtual while others are in person.

What is needed to implement the recommendation?
○ Hardware and software

How feasible is it to implement this recommendation by the start of Fall 2020?
○ Feasible

Do you think this should be the role of central administration or the unit(s)?
○ Curricular implementation at the dept/college level
○ Facilities modifications central

Which unit(s) will have primary responsibility for implementing this recommendation?
○ Largely LSA, also health science schools, Engineering
What is needed to ensure public health requirements?
- In person aspects: PPE, disinfection, social distancing, segregated labs, shields
- Stagger lab sections over a longer period (evenings, weekends)
- Defer low enrollment, specialized lab courses until winter term
- Allow students to substitute undergraduate research performed in research labs in place of upper level specialized labs for degree credit

What are the biggest challenges units may face in implementing this recommendation?
- Lab capacity will be substantially reduced

What outstanding questions or issues do we need to be aware of?
- Wherever possible hands-on, in-person labs should continue to run because this is fundamental and cannot be fully substituted by remote learning.
- Course content should be maintained: if time and space limitations mean some experiments must be cut out, they should be substituted by virtual material.

What are the recommended next steps?
- Communication and implementation

**Recommendation 2: Support team-based and peer-to-peer learning**

*supports both ‘hands on’ and team-based learning*

A substantial component of many lab, studio, design and performance courses are activities that engage students to work together. These may take the form of team projects, peer critique, or ensemble performance. While a team approach is not the exclusive domain of P/S/L courses, this approach is often central to attaining their learning objectives. In either scenario, we should support and preserve these activities as much as possible. Their value is essential to:

- Develop collaboration and teamwork skills, including delegating tasks, coordinating effort, integrating multiple contributions, synthesizing a common view, and communicating across differences
- Guide students to give and receive feedback and sharpen their evaluation skills
- Build technical and artistic skills necessary for ensemble performance
- Explore core performing arts repertoire that is ensemble-based
- Promote engagement
- Fulfill accreditation standards
- Mimic working environments students will enter after graduation
- Enable students to complete more substantial projects than individual efforts would allow
- Cultivate a manageable number of projects to allow assessment

Delivering team-based and peer learning opportunities require instructors to plan a number of stages: a) assigning groups and group topics; b) monitoring and guiding student work; c) student creation of a final product (presentation, poster, work or performance); d) delivery and assessment of the product.

Primarily technological methods are described below which help instructors with the operational and logistical aspects of this work. Instructors will likely need additional training and guidance in effective pedagogies. In our survey of faculty, a number noted that the success they observed in remote team learning benefitted from the trust and bonds students established during the in-person portion of the semester. Without that in-person opportunity, faculty may need to find new and additional strategies to promote fruitful student collaboration for those students who are not physically present.
**Team/project-based activities using Canvas Groups PR, SR, LR**

There is a Group functionality in Canvas to facilitate collaborative work. Each group created automatically provisions a group site with its own discussion area, files repository, conferencing tool, announcements, and google docs collaborations area. Members can share files, host video conferences and work on group assignments.

**What is needed to implement the recommendation?**
- Canvas groups is already in place, faculty may need tutoring on how to optimize

**How feasible is it to implement this recommendation by the start of Fall 2020?**
- Highly feasible

**Do you think this recommendation should be the role of central administration or the unit(s)?**
- Unit implementation

**Which unit(s) will have primary responsibility for implementing this recommendation?**
- All units.

**What are the biggest challenges units may face in implementing this recommendation?**
- Eliciting faculty and student buy-in

**What are recommended next steps?**
- Increasing faculty awareness

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**Low latency audio conferencing for live rehearsal PR, SR**

Real-time collaboration is an important component of teaching and learning across all disciplines, but crucial in the performing arts. In a hybrid context, it is likely that some portion of real-time performance instruction would happen virtually, and in a fully-remote scenario, this capacity is essential. Readily available virtual conferencing platforms (Zoom, BlueJeans) present audio quality and latency issues that inhibit meaningful artistic collaboration, and thus undercut basic learning goals in the performing arts. One of the major issues with networked performance is that latency is introduced into the audio as it is processed by a participant’s local system and sent across the network. For interaction in a networked music performance to feel natural, the latency generally must be kept below 30 milliseconds, the bound of human perception. Potential solutions include specialized software and enhanced wifi connectivity.

**What is needed to implement the recommendation?**
- Access to high-quality software such as Jamulus, JackTrip (open source)
- Software documentation and training (tech support)
- Enhancements to ensure stable connectivity
- Network access best practices
- Hardware minimum standards and support to assure access (equity issue)

**How feasible is it to implement this recommendation by the start of Fall 2020?**
- Very feasible to make improvements; more difficult to ensure enterprise baseline

**Do you think this should be the role of central administration or the unit(s)?**
- Uniform connectivity - central administration for reasons of equity
- Hardware and software specific to discipline could be a unit or shared expense

**Which unit(s) will have primary responsibility for implementing this recommendation?**
- SMTD, yes. For most other units, latency in available platforms (Zoom, BlueJeans) may be adequate

**What are the biggest challenges units may face in implementing this recommendation?**
- Cost and timely procurement
- Personnel to deploy software and hardware, and provide support
- Variance of broadband access and quality; system is only as strong as the weakest link; less well-resourced students will suffer, exacerbating equity issues
What outstanding questions or issues do we need to be aware of?
  ○ Still testing quality and practicality

What are the recommended next steps?
  ○ Testing with performers (ongoing in SMTD)
  ○ Summer pilot

**Peer critique through portfolio sharing in Canvas PSL H&R**

Critique of student performance and studio work is a main source for formative and evaluative assessment in the performing arts, the visual arts, and design. The loss of in-person interaction with the actual work and with the artist/designer/performer presents a major challenge to providing this critical source of feedback. Canvas-compatible module(s) can be provided that promote(s) the sharing of two-dimensional, three-dimensional, and time-based student work and invigorates student-to-student as well as instructor-to-student critique and discussion. Provide resources for students to digitally record their 2D, 3D, and time-based work products.

The following tools could support this need:

**Gallery Tool**
- Created and supported by U-M Academic Innovation and integrated into Canvas
- Gentle learning curve and structured around and to course rather than a student
- [U-M IT Page About Gallery Tool](#)
- [Canvas Gallery Tool Full Demo](#)

**Folio**
- Created by Porfolium, now owned by and part of Instructure which operates Canvas
- Steep learning curve and structured around and to a student rather than a course
- [Portfolium by Instructure](#)

What is needed to implement the recommendation?
  ○ Deployment of these modules into Canvas
  ○ Configuration of modules to specifically support studio, design, and performance
  ○ Connection of the modules to Canvas assignments and grading modules
  ○ Development of guides and training modules specific to studio, design, and performance courses for the use of the tools
  ○ Online workshops to support instructor and student use of the modules
  ○ Student access to facilities and equipment to digitally document their 2D, 3D, and time-based work, including cameras, lighting, sound equipment and 3D scanning
  ○ Clear protocols to guide students through digitally recording their work.

How feasible is it to implement this recommendation by the start of Fall 2020?
  ○ Highly feasible; tools exist, and can be readily modified for use in P/S/L courses.
  ○ Documentation studios for 2D work can be set up quickly at nominal cost.
  ○ Documentation studios for time-base work and to perform 3D scans will come at a higher cost, but could be accomplished by Fall 2020.

Do you think this should be the role of central administration or the unit(s)?
  ○ The Center for AI and ITS Teaching and Learning are best positioned.
  ○ Units can promote tools and work with AI and ITS to offer unit-specific training.
  ○ Documentation studios can be shared by multiple units.
  ○ Smaller units would have a more difficult time supporting the setup costs

Which unit(s) will have primary responsibility for implementing this recommendation?
  The following units support the recommendation:
  ○ ITS, AI, COE, Taubman College, SMTD, Stamps, LSA (lab-based units)
What are the biggest challenges units may face in implementing this recommendation?
- Instructor acceptance of this form of student project critique.
- Limited student experience in digitally documenting 3D and time-based works.
- Dedicating space and expense of instructional studio space.
- Ensuring student inclusivity for benefits of the resources

What are the recommended next steps?
- Generate new features to:
  - achieve instructor buy-in
  - ensure learning objectives are met
  - support student-to-student and instructor-to-student remote work, critique, and assessment
- Add the new features to the portfolio-sharing modules.
- Generate a guide for creating 2D, 3D, and time-based digital recording studios that can be deployed within units.
- Distribute guidelines to interested units.

Video discussion for exhibition/presentations PH PR SH SR

Provide technologies, facilities, and expertise that support (virtual or safe proximal) interactions between audiences, instructors, the producers (students) of exhibitions, presentations, and performances, and their work products. Exhibitions, presentations, and performances provide critical learning moments for students in performance, studio, and lab-based learning. Dialogue between the makers and performers, their audiences, and instructors provide key insights for formative and evaluative assessment. Hybrid/Hyflex and Online circumstances, without compensating efforts, put this key learning objective at severe risk.

What is needed to implement the recommendation?
- Spaces to safely accommodate participants and student work products.
- Equipment and technologies to support viewing/hearing student work products and dialogue between audiences, instructors and students.
- Expertise to create the facilities, guidelines for resources, hosting events.
- Facilities will need to adhere to approved health and safety standards.
- Coordination between units, instructors, and staff to schedule events.

How feasible is it to implement this recommendation by the start of Fall 2020?
- Highly feasible on a limited basis. There are well-established technologies for supporting this kind of synchronous broadcasting with audio/video interaction.

Do you think this should be the role of central administration or the unit(s)?
- Some large units have access to the resources necessary to create this support.
- Small units do not have access to the facilities, equipment, or expert support and would rely on shared services to be able to provide such a resource.

Which unit(s) will have primary responsibility for implementing this recommendation?
- COE, Taubman, SMTD, Stamps support the proposal.
- LSA, and units with lab-based instruction may also benefit

What is needed to ensure public health requirements?
- Spaces will need to meet health and safety standards as appropriate.
- Interactions between participants will need to meet health and safety standards.
- Broadcast equipment will need to be cleaned according to accepted protocols.
What are the biggest challenges units may face in implementing this recommendation?

- Identifying and preparing spaces to host events that can accommodate the needed range of student work products.
- Scheduling the spaces to match instructional timelines, student evaluation timelines, and inter-unit schedules if facilities are shared.
- Staging student work (transporting, pre-storage, installation, de-installation).
- Ensuring that students and instructors are not excluded from benefits due to unequal technological access or personal/family health constraints.

What are the recommended next steps?

- Identify existing facilities that provide similar resources.
- Determine potential demand for facilities as it relates to existing supply.
- Generate guidelines from existing facilities to serve as models for new facilities.
- Distribute guidelines to interested units.

360 video for immersive performances/demonstrations* PSL H&R

360 video (aka immersive or spherical video) is an immersive way to observe/monitor exhibitions, demonstrations, or experiments. 360 videos can simulate a representation of a space – real or virtually constructed – that can be experienced either through wearing a virtual reality (VR) headset or using a standard screen (smartphone, laptop, etc.). These techniques can be used for instruction in psychomotor domains as participants learn by interacting within a simulated space. Examples include having students explore ancient architecture, view choreography from different perspectives, examine the internal structure of a chemical compound, dissect human anatomical structures, or visit an otherwise inaccessible location.

What are the biggest challenges units may face in implementing this recommendation?

The main challenge to using 360 video is in acquiring the equipment. 360 Cameras are not widely available at UM and can be expensive. While capturing 3D is easy, displaying it in 3D requires special viewers, headsets, or lenticular screen designs. The videos can be viewed in 2D on standard screens, but that experience is less immersive.

There are numerous 360-degree cameras on the market, ranging in price from the affordable Ricoh Theta and GoPro Fusion, to the mid-range Vuze, to the high-end GoPro VR. 360 video can be experienced as a stand-alone clip or edited to include text, prompts, linked nodes, or other interactive elements for learning. Unity is a popular authoring environment for creating 360-degree video experiences. There are a few pockets of expertise using these tools in the Digital Media Commons, Academic Innovation, and ITS. Using this method extensively for 2020 would require an investment in equipment, training, and communication.

Asynchronous recordings (Canvas Kaltura Capture)* PSL R

Asynchronous lecture recordings served as an invaluable method for continuing instruction as part of the COVID response. Since the cancelation of in-person classes in March, the use of the Kaltura MiVideo service increased by approximately 500%. Recorded lectures require minimal technical effort, are highly portable, and allow students flexibility if they are in different time zones or have other time restraints. The ability to play segments of a video repeatedly facilitates study review. The Kaltura Capture utility that is integrated into the Canvas LMS is fairly intuitive to use and automates the process of capturing, encoding, streaming, and sharing videos.
Kaltura is managed by ITS which provides support, training, documentation, and consultation on the use of the service. There are no storage limitations or incremental costs. The service offers both machine generated and human generated closed captions to accommodate accessibility. This method of instructional delivery is already widely utilized and there are minimal barriers to employing this approach for fall 2020. In a Hybrid/Hyflex scenario recorded video can be used in class and remotely to assure that online participants have access.

**Synchronous Conferencing (ZOOM, BlueJeans)**

Video conferencing using tools such as Zoom and BlueJeans have become the de facto, stop-gap approach for continuing instruction during the COVID response. Video conferencing lends itself fairly well to didactic instruction, but requires some creativity when applied to more social, project-based, and hands-on instruction. Some recommended approaches include:

- Zoom breakout rooms for small group learning and discussion
- Whiteboard feature for demonstration
- On-screen annotation to enable students to collaborate on a drawing, work through a formula, sketch choreography, or annotate architectural elements.
- On-screen polls to help gauge understanding and guide instruction
- Enable online students to participate during live lab experiments (e.g. make prediction as to what will happen or document lab results)

Zoom and BlueJeans are managed by ITS which provides support, training, documentation, and consultation on their use and there are no storage limitations or incremental costs. Zoom offers both machine-generated and human-generated closed captions to accommodate accessibility; BlueJeans has automated captioning available by request. This method of instructional delivery is already widely utilized and there are minimal barriers to employing this approach for fall 2020.

**What are the biggest challenges units may face in implementing this recommendation?**

While video conferencing provides a fairly convenient way to simulate the live interaction of the classroom, it poses challenges in replicating highly kinesthetic, hands-on, or ensemble learning modalities. There is also an inherent latency in the audio and video signals in web conferencing tools that make activities such as ensemble practice, orchestration, and performing “in-time” somewhat impractical. Beyond those shortcomings, video conferencing can indeed have some value in Hybrid/Hyflex modes, such as providing a synchronous connection between students participating in solo performance or lab activities.

**Zoom & BlueJeans for live streaming**

Students can be assigned the co-host role so that they can deliver live presentations or solo performances to an audience. Participants can provide critique or feedback through the chat feature. However, current available platforms **do not** work for live collaborative performance (see discussion re: “low latency audio conferencing.”) Simulated performances that look like Zoom/BlueJeans calls are useful creative projects with value in a fully remote scenario, and serve as a means of students building important supporting skill in recording/editing.

* Examples of “simulated performances” in Zoom format:
  - SMTD project, “Distant Sea”
  - New York Philharmonic, Ravel "Bolero"
  - US Marine Band Holst "Suite in E♭"
What is needed to implement the recommendation?
- Support for post-production necessary to create “simulated performances” is in place via access to Adobe Creative Suite
- Distribution of microphones and support for content recording

How feasible is it to implement this recommendation by the start of Fall 2020?
- Depends on scale. Currently have capacity to produce and teach others to produce the content, but the scale would be limited by the time available.

Do you think this should be the role of central administration or the unit(s)?
- Units

Which unit(s) will have primary responsibility for implementing this recommendation?
- SMTD, yes.

What are the biggest challenges units may face in implementing this recommendation?
- Providing adequate tech support

What are the recommended next steps?
- Testing with performers
- Summer pilot

Recommendation #3: Create the Safest Environments for P/S/L Courses
To the extent that courses will be taught face-to-face, there are a number of steps the university and units can take to ensure that risk to students and instructors is minimized. While this is not a comprehensive list of practices, this report highlights ways in which particular methods and practices can support the learning objectives of P/S/L courses.

Connected rooms for low density collaboration PH, SH, LH
In a hybrid context, one of the basic assumptions is that activity that can be online, will be, thus freeing up space to de-densify the campus. Instructional activity that involves large numbers of students, and requires real-time interaction (e.g. music, dance, theatre rehearsals, laboratory) would benefit from being able to distribute the activity to a number of rooms, and allow for synchronous activity that is also socially-distanced. Hard-wired connectivity could address sound quality and latency issues in performance instruction to make this effective.

What is needed to implement the recommendation?
- Audio and video hardware: headphones, headphone amplifiers, cabling, microphones, cameras, large screens
- Network infrastructure enhancements

How feasible is it to implement this recommendation by the start of Fall 2020?
- Depends on scale; possible to introduce in limited way by fall

Do you think this should be the role of central administration or the unit(s)?
- Unit responsibility

Which unit(s) will have primary responsibility for implementing this recommendation?
- SMTD, yes.

What is needed to ensure public health requirements?
- Cleaning shared equipment (headphones, instruments, etc.)
- Maintaining social distancing
- Measures to manage exposure of support staff

What are the biggest challenges units may face in implementing this recommendation?
- Scaling to need, procurement, and tech support

What outstanding questions or issues do we need to be aware of?
- Still testing quality and practicality
What are the recommended next steps?
- Testing with performers
- Summer pilot

Distributing Personal Protective Equipment (PPE) PSL H

The use of PPE may expand the safety and ability for people to congregate in closer proximity, thus supporting high quality learning, student success and sense of community. It may also provide a false sense of security or not be used correctly. It is important to customize the use of PPE for settings and understand the cost-benefit of its use. Some populations are accustomed to using PPE already whereas others are not so training will also need to be customized.

What is needed to implement the recommendation?
- Detailed information about the educational benefits of adding PPE. Examples include: Are there P/S/L courses that can only be offered if PPE is used? Could PPE allow for additional opportunities such as more students to participate/larger class sizes/closer spacing? What type of PPE for each type of P/S/L?
- Training and monitoring of PPE use. Models of this already exist in the bench science lab courses; generally PPE provided by unit and stored in the lab for each student. These procedures could be shared to other P/S/Ls.

How feasible is it to implement this recommendation by the start of Fall 2020?
- Should be easily implemented unless very specialized or difficult to obtain PPE.

Do you think this should be the role of central administration or the unit(s)?
- Central guidelines should be established informed by public health requirements then units should implement consistently. For example, if physical distancing is required, but with PPE that distance could be reduced or allow for closer interactions, a unit could make local decisions about the best solutions. Thus a unit might require PPE for P/S/Ls that require close human contact or tight spaces but may not require PPE if students can be appropriately spaced.
- The type of activity and ventilation of the space will also be factors that need to be addressed – more respiratory activities (singing, dental work, aerobic exercise) in smaller spaces may have stricter guidelines and we will need to understand this.

Which unit(s) will have primary responsibility for implementing this recommendation?
- Central/public health guidelines with units making the local decisions.

What is needed to ensure public health requirements?
- Need to develop procedures for training and monitoring of PPE use.

What are the biggest challenges units may face in implementing this recommendation?
- Procurement of PPE, training, storing, developing procedures, compliance.

What outstanding questions or issues do we need to be aware of?
- Some P/S/Ls require hands on human contact or very close contact so physical distancing is impossible – what amount of PPE is required to ensure that education can take place? Does PPE need to be combined with other mitigations (testing, symptom tracking, etc.) for those courses?
- Are there some activities or people for which use of PPE is prohibitive, if so, are there alternatives or is the activity impossible?

What are the recommended next steps?
- Learn what the requirements and/or benefits of PPE use will be. Is PPE absolutely required for all? Does the use of PPE allow for other/closer human interactions? Do particular P/S/L courses benefit from use of PPE?
Expanded schedule options for lower density instruction (PSL H)

If physical distancing requirements are implemented, classroom capacities will be reduced forcing the need to reschedule most fall courses. This need will occur across all courses but has specific implications for P/S/L courses.

What is needed to implement the recommendation?

- Detailed information about the facility requirements that requires expanded/modified schedule – there will be a wide range of specificity. Some P/S/L might be able to utilize non-traditional spaces such as large classrooms, auditoriums or other venues (Power Center, Athletics, Student Life, Campus Rec, etc.).
- Software such as Live25 (UM has) to optimize schedule options.
- Consider whether schedule can be extended to include more hours/day or days/week of occupancy.
- Consider logistics: security, building access, cleaning, P/S/L prep needs
- Establish space priorities – e.g. credit bearing courses priority over other events across units/buildings in cases where P/S/L space is not dedicated.
- Shorten the P/S/L time schedule to accommodate more students – move pre/post activities and only conduct the minimum in person.

How feasible is it to implement this recommendation by the start of Fall 2020?

- Quite feasible to manage/schedule spaces given the prior implementation of Live25 for Engineering/LSA; this could be expanded to include P/S/L spaces.
- The more specific/rare the facility need, the more likely that a schedule alteration would be a better solution vs alternative facility.

Do you think this should be the role of central administration or the unit(s)?

- Allowing schedule expansion (nights, weekends) should be a central decision. Units should decide whether to implement that strategy.
- Central admin (RO for example) should facilitate the matchmaking for new locations/times for P/S/L. Units should request access to new venues/time slots.

Which unit(s) will have primary responsibility for implementing this recommendation?

- Smaller units do not control a lot of P/S/L space and may need access to additional non-traditional spaces. There would be a role for RO to prioritize.

What is needed to ensure public health requirements?

- Ensure compliance with all applicable regulations for public health and other safety requirements. Some campus spaces are not designated for classroom use; waiver possible? Central RO does not have access to schedule all spaces.

What are the biggest challenges units may face in implementing this recommendation?

- Faculty and student socialization to a new scheduling paradigm, managing expectations P/S/L locations/times/suitability might be different or less desirable.
- Smaller units may have a hard time accessing new spaces/time slots and would require central help (Live25 is for engineering and LSA).

What outstanding questions or issues do we need to be aware of?

- What is the scope of in person P/S/L class that is allowed?

What are the recommended next steps?

- Space analysis

Appendix: engineering examples of novel scheduling here
Flexible block scheduling

A block schedule is a more dramatic schedule shift compared to “expanded or altered schedule” and reorganizes the schedule into larger time blocks. Specifically, for P/S/L courses this would concentrate a set of students into a more intensive period of activity. One example would be to replace 3h/wk for a 10wk period with a short but intensive time period such as 30h in one week for a cohort. The block schedule offers advantages of creating student cohorts and concentrating their in person experiences and minimizing the number of days they are physically present as well as minimizing groups of students in spaces on days. It has the disadvantage of being hard to implement and impact a student’s entire schedule.

The flexible schedule option refers to other schedule variants such prioritizing P/S/L courses over all other types and then expanding the schedule to accommodate more students in a less dense manner or offering students additional options about how to complete the P/S/L portion of a course. Another example is to use student home distance from campus to drive the schedule - one example is that students who live far away might start earlier and could finish their in person P/S/L before a certain date thus reducing travel and staggering start times and local students would start later and finish after a certain date.

What is needed to implement the recommendation?
- The block schedule would require Live25 or other such scheduling software. Live25 is already in place in engineering and LSA.

How feasible is it to implement this recommendation by the start of Fall 2020?
- Difficulty to implement because would likely be broader than just a P/S/L solution
- Easiest to implement in professional programs more difficult for undergraduate

Do you think this should be the role of central administration or the unit(s)?
- The decision to either allow or require block scheduling should be a central decision. Units should decide whether to implement that strategy.
- Depending on the size, complexity and reliance on other units for instruction the block could be managed by an individual unit (professional program) or would require central RO planning (most undergraduate programs).

Which unit(s) will have primary responsibility for implementing this recommendation?
- Academic units should be responsible for implementation but will need central support for logistics and coordination across units. Smaller units do not control a lot of classroom P/S/L space and may need access to additional untraditional spaces. There would be a role for RO to prioritize competing requests.

What is needed to ensure public health requirements?
- Activate compliance with public health and other safety requirements.

What are the biggest challenges units may face in implementing this recommendation?
- Reorganizing the schedule to accommodate blocking
- Accelerating/repackaging the curriculum to the condensed schedule
- Managing students’ expectations if this isn’t their preference.

What outstanding questions or issues do we need to be aware of?
- Is blocking preferred or prohibitive for academic programs?
- Is blocking required or will easier to implement options be sufficient?

What are the recommended next steps?
- Discussion with RO and applicable units
Reconfigure existing spaces PSL H

Reconfiguring existing lab, studio and performance spaces may allow them to be used at higher density/more efficiently while maintaining social distancing. Examples might include:

- Temporary partitioning of larger labs, studio and performance spaces to create smaller rooms (e.g. temporary walls used by contractors during construction to control dust).
- Subdivision of lab benches or studio work spaces with Plexiglas screens (or other material) so that they can be occupied more densely.
- Moveable Plexiglas screens that could be reconfigured depending on the class.

What are the biggest challenges units may face in implementing this recommendation?

- Subdivision of large spaces may impact egress and ingress and interfere with air handling. Feasible in a limited number of spaces, will need assessment by building management - implementation at college/university level.
- Subdivision of lab benches, etc. and provision of screens will incur some cost and require lead time for fabrication and installation but should be generally feasible - implementation at college level.
- Can our procurement and AEC units accommodate our timeframe?

Environmental modifications to suppress viral transmission SH, LH

We can contribute to virus suppression by retrofitting fixtures, work surfaces, and other components of a lab, studio, or performance space with antimicrobial materials such as copper or applied antimicrobial finishes.

➢ Spectorgroup [alumni architecture firm] COVID-19 & Material Selection recommendations

Since airborne transmission is a major vector of COVID transmission, we should evaluate heating, ventilation, and air conditioning systems in our facilities.

➢ ASHRAE (American Society of Heating, Refrigeration, and Air-Conditioning Engineers), COVID-19 Preparedness Resources

Ultraviolet light is a proven antiviral agent used to disinfect operating rooms, labs, and other facilities, usually off-hours due to carcinogenic properties of UVC radiation. We could install UVGI lighting in high-traffic P/S/L facilities for nightly or otherwise intermittent disinfection.

➢ Wikipedia, Ultraviolet germicidal irradiation

Research at Columbia University’s Center for Radiological Research suggests that far-UVC light can suppress influenza and coronavirus without harming human occupants. After further testing at Columbia or here, far-UVC installations or retrofits could permit continuous viral suppression in facilities for teaching, learning, and research.

➢ Carla Cantor, Could a New Ultraviolet Technology Fight the Spread of Coronavirus?
➢ Prof. David Brenner, Center for Radiological Research, Columbia University: Using the Power of Light: Preventing the Airborne Spread of Coronavirus and Influenza Virus.

What is needed to implement the recommendation?

- Facility changes: installation of new fixtures and/or retrofit of existing fixtures.

How feasible is it to implement this recommendation by the start of Fall 2020?

- Feasibility will vary from high to low depending on extent of retrofit, method chosen, and availability of expedited procurement pathways.

Do you think this should be the role of central administration or the unit(s)?

- Unit implementation following central public health guidance.

Which unit(s) will have primary responsibility for implementing this recommendation?

- Any unit with lab, studio, or performance facility could consider these measures
What is needed to ensure public health requirements?
○ Review by Public Health Committee and Facilities & Operations
○ In the case of far-UVC, outcomes of research-in-progress at Columbia University Mailman School of Public Health

What are the biggest challenges units may face in implementing this recommendation?
○ Cumbersome, slow, and costly procurement processes

What outstanding questions or issues do we need to be aware of?
○ Effectiveness of various measures
○ In the case of far-UVC, safety studies are still in progress.

What are the recommended next steps?
○ Refer to Public Health working group for evaluation.

4. Scenario 2 – Fully Remote Instruction or Operation: Key Differences
The first two recommendations for Scenario 1 largely apply to Scenario 2 with little modification. Methods that would be employed for some subset of students who participate in an in-person class via a remote link for a long-term or short-term basis are equally applicable when all students are participating remotely. Where there were particular considerations for Fully-Remote instruction, comments are included below.

The third recommendation, for supporting safe spaces and mitigating risk, is not applicable in Scenario 2. Environmental modifications to teaching spaces are not needed, except to the extent that our on-campus facilities are used as demonstration spaces for distance teaching. In that case, research protocols will likely suffice.

Scenario 2 considerations for Recommendation 1, supporting hands-on learning:

Video tutorials (OER, custom, LinkedIn Learning)

Considerations for Fully Online Instruction
The advantage of video tutorials in a fully online scenario is that they can be viewed independently of time or geography and they enable users to learn on demand and when motivated. Learners are able to stop for breaks, repeat sections, or skip sections they have previous knowledge of. Video content can be more impactful if it is embedded in discussion threads, assignments, or modules that provide richer context and shared perspectives.

Some of the challenges to using video tutorials for remote learning is the lack of social reinforcement. Individuals must be motivated enough to complete tutorials and it often takes novices longer to learn via video tutorial than in a classroom setting. If the primary delivery for instructional content is through video, accessibility to all students is even more critical.

Interactive simulations
Students off campus would not have access to computer labs loaded with appropriate software. They will need to have access to personal computers with sufficient processing speed and programs. Access to instructional software has traditionally been limited to on campus use. Thus, access to such tools would need to be made more widely available. An issue is that these tools must abide by federal export control, i.e., they cannot be run from "restricted" countries.

Recorded lab demonstrations
Recorded laboratory demonstrations would be needed as a priority so that students obtain some experimental experience they would otherwise perform as hands-on, in-lab experiments. Increased demand may tax the capacity that currently exists at college or university level.

Virtual science labs
Remotely taught lab courses are suboptimal but could be necessary for students to maintain progress towards degrees.

**Optimal implementation:**
- Course content should be adapted for asynchronous participation.
- Consideration should be given to how students can exercise agency over experiments; i.e. how can students have input into determining experimental outcomes.
- Low enrollment, specialized and/or intensive lab courses may be deferred until WN21.
- Flexible degree requirements exercised if courses are necessary for graduation.

**Challenges:**
Most faculty will need additional help, advice and training to effectively convert in-person labs into on-line format while maintaining high quality teaching and learning.
- University should adopt and support training on commercially available software designed to support virtual lab training – e.g., Beyond Labz
- Workshops led by both IT experts and faculty from relevant disciplines with experience in running virtual lab courses. Feasible - implementation at university and college level

Allowing students to exercise agency over experiments.
- Direct remote (web-based) control of experimental apparatus. Feasibility – difficult as few or no undergraduate labs currently have this capability and it would require a large up-front in investment in technology; implementation at university and college level.
- Students select parameters under which experiments are to be run; the experiments are performed by GSIs and resulting data reported to students for analysis and write-up. Feasible - implementation at Instructor level

Kitchen table “lab in a box” kits mailed to students to perform experiments at home. Feasibility likely discipline/course specific implementation at dept level

**Scenario 2 (fully-online) considerations for Recommendation 2, supporting team-based and collaborative learning:**

**Additional methods that support/enhance collaboration and teamwork**

When every stage of a collaborative learning project is carried out online, and all participants are working remotely, a variety of applications and tools may be helpful. The chief difficulties in collaborative learning are rooted in the unevenness of group members. They start at different levels of subject knowledge, bring different levels of collaborative skills, and are more connected to some members than others, consequently their contributions to the project are not equal. Online learning adds access to and familiarity with technology as other variables.

Monitoring and guiding students’ work may be of particular importance for all-remote:
- Could use the same vehicle for online office hours (Zoom, BlueJeans). Zoom breakout groups allow all students to be invited at a common time, hear instructions and then be split into working groups with their own meeting. The larger group can be reconvened after a set period. Instructors can float between groups offering feedback.
- Less formal means (Skype, FaceTime, group texts) may allow further collaboration outside of scheduled class time. Absence of an instructor may be more comfortable.
- Tandem (https://ai.umich.edu/faculty/use-our-software/) is facilitation software for groups. It can help balance groups in a number of ways, by gender, primary language or personality type. It monitors the contributions of each person and offers feedback to improve team performance. It also offers these records to the instructor, who can intervene and ensure groups are functioning equitably. Tandem attempts to teach students collaboration skills and offer a measure of team health. Zoom sessions let the instructor be partially present and prod the students toward more effective collaboration. Either way, instructors must be proactive. This will also help in fair assessment. If students are left to structure the collaboration for themselves, there may be poor results.
The applications needed are all available and free, but both instructor and student need to be trained in their use. Teaching collaboration skills is a necessary prerequisite to employing them in the quest for higher learning. Each instructor must decide if there is time enough in the course. Devices must be modern enough to handle the demands of video conferencing.

**Peer critique through portfolio sharing in Canvas**

This method becomes essential if courses must be delivered in a fully remote scenario because the student work product of studio, performance, and lab-based courses requires substantial interaction with the work for meaningful formative and evaluative assessment. In a fully remote scenario, students will be required to document their 2D, 3D, and time-based work using equipment and processes available in their environment. This will limit the quality and nature of interaction with the digital documentation.

Students will need access to audio/video recording capabilities and have sufficient bandwidth. One challenge will be ensuring that students are not excluded from benefits of this opportunity due to unequal access to documentation tools (cameras, audio recording), spaces, or communication bandwidth to upload documentation and interact with the work of peers. Units may need to identify means to provide documentation tools to students with limited resources.

**Video discussion for exhibition/presentations**

A fully remote form of this recommendation would require that student work products be installed or performed in a facility while participants interacted with the work remotely and discussed the work remotely. We would need spaces to safely accommodate the installations.

**Scenario 2 (fully-online) considerations for methods that support both hands-on learning and team-based/ collaborative learning:**

**360 video for more immersive performances and demonstrations**

360 video can provide a remote viewer a greater sense of immersion and sense of space than they would otherwise experience through traditional learning content. Online instruction presents more challenges in providing access to 3D headsets or other specialized viewers. It is also difficult to provide accessible, equivalent experiences for vision impaired learners.

**Asynchronous recordings (Canvas Kaltura Capture)**

Recorded lectures are even more applicable (and arguably essential) when teaching online. The passive nature of video viewing may not be as engaging as in-person instruction. To mitigate this shortcoming we recommend the following techniques:

- Chunk video into 5 to 10 minute segments by concept, procedure, etc.
- Use the in-video quizzing features to add reflection and self-assessment opportunities
- Embed the video segments in discussion threads, assignments, or modules to enrich
- Use the embedded slide and hot spot features to add interactivity to the videos

**Synchronous Conferencing (ZOOM, BlueJeans)**

Many of the aspects of using video conferencing in a Hybrid/Hyflex scenario apply to its use in full online instruction. Synchronous video does carry some technical risk in that it requires a stable internet connection. With that in mind, it is recommended to have alternative forms of the lecture content available in the event of technical issues with the live stream (e.g. slides, articles, modules, pre-recorded video). In most cases a recording of the live session should be made available to allow students to review the lecture content. This is especially important for students that may need to time-shift because of time zone or other challenges.

**Zoom and BlueJeans for live performance/presentation streaming**

In the fully remote context, this “simulated performances” will be important (See Scenario 1).
Appendix

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<th>Document</th>
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Guiding principles, Assumptions and Recommendations for Fall 2020 Instruction
Provost’s Fall 2020 Planning Committee: Graduate and Professional Programs and Students
May 29, 2020

A. Executive Summary

The Provost’s Fall 2020 planning committee for graduate and professional programs and students concludes that the University of Michigan can offer a Fall 2020 term in which graduate and professional students pursue their education, research, clinical work, and teaching with excellence and in ways that are adaptive to the public health guidance that will govern the University’s operation during the COVID-19 pandemic. Graduate and professional students train as scholars, researchers, and clinicians; our recommendations prioritize these activities to occur residentially in Fall 2020 if necessary for degree attainment and licensure. To do so, we call upon faculty in their programs to apply centrally provided public health guidance so that these activities can be pursued equitably and with mitigated risk. At the same time, to maximize the participation of all students in the term, we recommend that graduate and professional programs prepare, to the greatest extent possible, instructional plans that accommodate simultaneous remote, hybrid, and in-person participation by learners throughout the term. Courses, parts of courses, and program requirements whose learning outcomes are potentially necessary to complete residentially – for reasons such as licensure or access to specialized spaces – need to be identified by program faculty this summer. This early identification will support the flexible sequencing of academic requirements should some students be prevented from completing those courses and experiences in Fall 2020 for a variety of reasons, including the potential need to move to fully remote instruction. In addition, programs should identify the components of their curriculum that are preferably completed remotely or residually, so that these academic experiences can be dynamically matched with the facilities and resources available to their program under social distancing guidelines. Situating this work with the faculty of graduate and professional programs allows for different practices in the professional schools, as necessary for licensure; for support of the research and scholarship of doctoral students, which needs to progress and be pursued consistent with public health guidance; and for the creation of flexible pathways to pursue the internship experiences that are often central to the academic experience of graduate and professional students. Finally, the committee examined ways to promote the matriculation of international students; to support students who face unavoidable, added responsibilities in their personal lives as a result of COVID-19; to address needs of graduate and professional students for academic support, wellness, and community; and to engage graduate and professional student organizations in review of our recommendations and their implementation as follow up to this committee’s report.

B. Committee Charge

As COVID-19 has developed, graduate and professional students and their graduate programs are navigating a number of unique challenges. For example, opportunities for research, language training, and internships over the summer have been interrupted; some Ph.D. students in certain programs will likely require additional time to degree; graduate students were more likely to be sheltering here in Ann Arbor, rather than at home. This committee will identify short and long term COVID-19 related needs of graduate and professional students. The subgroup will propose and evaluate measures that might be taken to address the needs identified. It will develop recommendations to ensure a high quality academic experience for graduate and professional students in the fall term under a variety of scenarios, and which
accommodate the unique features of their degree programs, including the participation of international students and the integration of teaching, research, internship, and clinical experiences into the curriculum.

C. Committee membership

Laura Blake Jones, Dean of Students

James Dalton, Professor of Pharmaceutical Sciences and Dean, College of Pharmacy

Elena Gallo, Associate Professor of Astronomy, College of Literature, Science, and the Arts

Monica Hakimi, James V Campbell Professor of Law, Professor of Law

Francine Lafontaine, William Davidson Professor of Business Administration, Senior Associate Dean for Faculty and Research, Professor of Business Economics, Stephen M Ross School of Business and Professor of Economics, College of Literature, Science, and the Arts

Fiona Lee, Arthur F Thurnau Professor, Associate Dean for Diversity, Equity, Inclusion, and Professional Development and Professor of Psychology, College of Literature, Science, and the Arts

Rajesh Mangrulkar, Marguerite S Roll Professor of Medical Education, Associate Dean for Medical Student Education, Associate Professor of Internal Medicine and Associate Professor of Learning Health Sciences, Medical School

Jonathan Overpeck, William B Stapp Collegiate Professor of Environmental Education, Samuel A Graham Dean, Professor of Environment and Sustainability, School for Environment and Sustainability, Professor of Climate and Space Sciences and Engineering, College of Engineering and Professor of Earth and Environmental Sciences, College of Literature, Science, and the Arts

Mary-Ann Mycek, Associate Dean for Graduate and Professional Education, College of Engineering and Professor of Biomedical Engineering, College of Engineering and Medical School

Brad Orr, Arthur F Thurnau Professor, Professor of Physics, College of Literature, Science, and the Arts, Associate Director, Michigan Nanotechnology Institute for Medicine and Biological Science, Medical School and Associate Vice President for Research - Natural Sciences and Engineering, UM Office of Research

Mike Solomon, Dean, Horace H Rackham School of Graduate Studies, Vice Provost for Academic Affairs-Graduate Studies, Office of the Provost and Executive Vice President for Academic Affairs, Professor of Chemical Engineering and Professor of Macromolecular Science and Engineering, College of Engineering

Veronica Beck, Doctoral Candidate, Neuroscience Graduate Program

Karen Zaruba, Assistant Vice Provost for Academic and Budgetary Affairs

D. Recommendations for Fall 2020 instruction
The committee considered two scenarios: Hybrid instruction and remote instruction. Hybrid instruction refers to teaching and learning that combines in person and online activities. This is the primary scenario that we considered and its recommendations offered apply broadly. A supplemental recommendation for the fully remote scenario is included after the discussion of the hybrid option.

**Scenario 1: Hybrid Instruction**

**a. Guiding principles**

In its planning, the committee applied the following guiding principles:

*Plan to maximize the potential for all admitted students to participate in the Fall 2020 term.* Graduate and professional education at the University of Michigan is remarkably varied and highly individualized. Planning – at every level of university – should be designed to accommodate this diverse range of learners. This diversity is both disciplinary and demographic. The demographic diversity spans from international students to students who rely on sustained graduate financial aid to pursue their education and research to students who have personal circumstances that prevent them from engaging in all instructional activities. The disciplinary diversity spans from, for example, a Master of Design student needing access to maker space, to a student in a professional school pursuing an internship or team project course, to a health science student learning in the University’s clinical spaces, to a doctoral student working in the field, at a museum, or in the lab. Because the variety of graduate and professional programs is large, the number of students in each may be small. Nevertheless, these students – more than 16,000 – have a collectively strong need to pursue and achieve their varied educational plans.

*Preserve the autonomy of graduate and professional programs to deliver their variable and specialized curricula within public health constraints.* Because of the variability in learning goals and instructional modalities, program faculty can better exercise their responsibility for graduate and professional curricula if they have the autonomy to select instructional methods within the constraints of school/college academic policy and university standard practices. In addition, many professional schools are subject to accreditation requirements which can lead to needs that may warrant variance from central guidance.

*Recognize that graduate and professional students have multiple roles as students, teachers, clinicians,* and *researchers.* This guiding principle acknowledges that determining instructional needs for graduate and professional students requires coordination with these components of their education. In these areas, graduate and professional students work in concert with other members of the university staff. These multiple roles should be a factor in policy decisions of the university administration and academic decisions of program faculty. Furthermore, the committee believes that the dual role of doctoral students – that they are often both student and employee – be considered as research and teaching assignments are allocated among graduate students, faculty, and staff.

**b. General assumptions**

*Research and clinical enterprise.* The committee assumed that the in-person research and clinical enterprises of the university, upon which a number of the learning goals of graduate and professional
education rely, would progressively resume in the remainder of the calendar year consistent with public health restrictions of the State of Michigan. The research enterprise at the University of Michigan includes laboratory, fieldwork, studio, human subjects, and library/collection components. Additional steps necessary to allow field work in distant locations, resume human subjects research, and provide access to libraries and collections are incomplete at this time. The clinical enterprise at the University of Michigan includes the hospitals, outpatient clinics, and emergency departments at Michigan Medicine, but also in partnering institutions which are spread throughout lower Michigan.

*University of Michigan travel restrictions.* Elements of graduate and professional education also require travel, both domestic and international. The committee assumes that the university will continue to restrict travel according to public health requirements; however, given that travel is intrinsic to doctoral research, professional internships, and some clinical rotations, the committee assumes that travel restrictions necessary for student travel will not be subject to ongoing budget restrictions, because of the impact of such restrictions on student degree progress and completion. In this sense, restrictions on student travel might differ from restrictions on faculty and staff travel.

c. Recommendations

Given the guiding principles and assumptions, the committee focused its work on the hybrid scenario with the rationale that building capacity for it will equally well support any other instructional scenario. We look ahead to a fall term in which academic programs have the capacity to dynamically move within a spectrum of hybrid instructional experiences whose residential components are adjustable. This flexibility can be used to match the number of in person experiences available to students in the program with the facilities and resources that can be allocated to it given the needs of public health. To accomplish this, graduate programs should holistically assess their needs for remote and in person instruction and then complete an internal prioritization of the academic experiences within each category. This assessment and prioritization will prepare them to match hybrid instruction to the classroom, studios, labs, etc. that are available to them under the specific public health situation. This approach also allows the program to dynamically respond to a change in the public health situation midway through the term.

Our recommendations focus on those that are critical to the success of graduate and professional students or are unique to them. Other recommendations that are more common to the undergraduate experience received less attention from our committee. Our recommendations for graduate and professional programs are distinguished by our locating instructional and facility allocation decisions with the program faculty. They prioritize the successful delivery of the unique research, teaching, clinical, and internship experiences of graduate and professional students, because they are critical to achieving high quality outcomes for these students in Fall 2020. We acknowledge that these recommendations ask graduate program faculty and instructors to commit significant time, energy, and labor to planning and delivering hybrid instruction in Fall 2020.

**Recommendation 1:** For classes that will be held fully or partly in-person, and to the degree possible, prepare instructional plans to accommodate simultaneous remote, hybrid, and in-person participation by instructors and learners throughout the term; course syllabi should clearly indicate the modalities by which both instructors and students may participate, technology requirements for learners, and how
instruction will accommodate those modalities to ensure a high-quality learner experience. Some demographic groups of graduate and professional students may, at certain points in the term, be unable to participate in residential learning activities for a variety of reasons. For example, they may be temporarily prevented from traveling to Ann Arbor (e.g. international students) or need to be self-isolating for public health reasons. The latter in particular also may be true for instructors. Thus, not only may courses need to adopt flexible formats due to changing public health guidance, but also they may need to accommodate learners and instructors in both remote and residential formats at any moment during the term. For this reason, it is important that high-quality delivery of course content in remote formats be emphasized throughout this process, even in courses in which the instructor might have a preference to deliver the course in an in-person only format. It is furthermore critical that residential and remote learners have equitable opportunities for class participation, as specified in the course syllabus, without one group being advantaged over the other. Finally, our guiding principle of promoting the participation of all students across these different instructional modalities is only achieved if each academic program designs hybrid instructional plans to accommodate students with disabilities, and if resources – including both time and funding – are allocated for this work.

Programs might consider offering fewer elective courses in fall 2020 to balance the additional effort required to plan and deliver hybrid courses. Graduate and professional programs should also consult and communicate with their students as to what remote, hybrid, and in-person opportunities are available in Fall 2020. This can be accomplished by communication about the curriculum as a whole, or, alternatively, by the communication of such information in course syllabi. Finally, we acknowledge the significant time, energy, and labor of faculty and instructors to implement this recommendation. (Primary responsibility for implementation: graduate and professional programs)

Recommendation 2: Program faculty should identify any courses, portions of courses, or other academic experiences that are both required for degree attainment and have learning outcomes which potentially cannot be accomplished solely through remote instruction. These courses, portions of courses, and activities are learning experiences that will: (i) need to be prioritized by the program for residential offering in the range of hybrid instructional scenarios of Fall 2020; (ii) potentially be unavailable for completion in a fully remote scenario because learning outcomes might not be achievable under such conditions. Classes with some proportion of learning goals that are necessary to complete in person are important to identify in the summer so that they receive prioritization by the program for facilities available in the fall. Students furthermore might need to receive incompletes in these courses if a way to achieve learning outcomes is unavailable due to the Fall 2020 instructional scenario. Instructors should sequence course content in these courses so that the learning goals that are necessary to complete in person are achieved as early in the term as possible; in addition, the course progression itself could be possibly organized so as to minimize demands on classroom, labs, studios and other resources as well as the number of in-person events. As in the prior recommendation, graduate and professional programs should consult and communicate with their students as to which parts (if any) of the curriculum potentially cannot be accomplished solely through remote instruction. (Primary responsibility for implementation: graduate and professional programs)

Recommendation 3: Develop flexible degree pathways for current and incoming students; allow sequencing of courses in ways that promote degree progress in multiple instructional modalities, insofar
as doing so is compatible with learning outcomes and appropriate professional development. In some cases, such as in Ph.D. programs, students complete their degrees over the course of many terms, and this duration can be used to promote degree completion if flexibility can be introduced. Such flexibility is more difficult to generate in other programs, such as in professional doctorate programs that may have strict sequencing requirements, or in some master’s programs, which can be as short as two or three terms. As an example: the committee recognizes that some courses, or parts of courses, are necessary to complete residentially. Once identified as such, student progress can be tracked, and, if learning goals are not completed by the end of the term, flexible pathways to complete these learning goals at a later time can be instituted. This post-term progress could be academically tracked by the Registrar by, for example, using the incomplete designation. These learning goals that are necessary to achieve in residence might not be completed in term for a variety of reasons, such as, possibly: (i) Fall 2020 was in the all remote instruction scenario; (ii) students were prevented from arriving in Ann Arbor; (iii) students needed to self-isolate; (iv) students had personal health conditions that prevented them from engaging in person. Extending course completion beyond the end of the term could have implications on the reporting of grades and/or meeting the requirements for graduation and/or honors. 

(Primary responsibility for implementation: graduate and professional programs)

**Recommendation 4:** Accommodate different policies and practices for clinical instruction in the professional schools, as necessary both for licensure requirements and for experiential training. In addition to the health sciences (nursing, medicine, dentistry, kinesiology, public health, social work and pharmacy), clinical instruction also occurs in LSA, Law, and Education; other forms of experiential training occur in a number of other schools. For such experiential training, it is both important that central campus decision making be cognizant of the unique requirements and conditions of these programs, and to allow programs to proceed in exceptional ways if necessary. Programs need to balance both University of Michigan public health requirements and academic policy as well as the requirements and limitations of the organization hosting the experiential training, which might be Michigan Medicine, a public school system, a hospital system in the State of Michigan, a court system, or other institutions and organizations. It will also be important to recognize that the public health requirements of these institutions may differ from those of the University of Michigan, and that students and faculty will need to follow the requirements of the environment within which they are working and learning, which in some cases are in variance with the standard academic calendar. For all of these reasons, these decisions are best taken by school/colleges or academic programs, with appropriate consultation and communication with the Provost’s office. The Provost’s office additionally should decide the degree to which exceptional practices need to be collected and/or evaluated for compliance and develop efficient systems if such collection and evaluation is needed. 

(Primary responsibility for implementation: Provost’s Office)

**Recommendation 5:** Develop capacity for internship programs to proceed flexibly via remote or hybrid modalities. Identifying internships experiences – both required and elective – which allow students the flexibility to participate/work remotely should be a high priority so that those internships can be filled prior to those that cannot accommodate a hybrid or remote scenario. To mitigate the negative impacts of abbreviated internships, programs are encouraged, to the extent that is possible, to allow flexibility in the expected working hours, and to communicate any expectations for shifts, rotations etc. timely and transparently. Air travel to and from different cities in which the internship is provided (relative to the
Recommendation 6: Develop pathways and supports for doctoral students whose research and scholarship experiences have been disrupted or substantially modified by ongoing restrictions on research and scholarship. Prolonged closing of research laboratories, libraries, museums, field sites and other places where scholarly research occurs causes delays in doctoral research due to the cycle of ramping up and ramping down, particularly for research employing living systems (e.g., human subjects, animals, cells). As suggested for classroom learning, hybrid scenarios in which fewer participants could utilize these spaces should be developed as a means to reduce the possibility and impact of another complete shutdown of research operations. Experts in virtual learning will be helpful to consult with programs, in order to help create hybrid or even fully remote alternative experiences that may meet learning goals of research and even parts of dissertation work. Programs should provide affected doctoral students with robust mentoring and career advising to promote accomplishment of research goals in a complete and timely manner, and also maintain flexibility in modifying research goals as appropriate. Schools and colleges, including Rackham, can assist in these efforts by providing guidance and catalyzing discussion of best practices. In addition to support mechanisms for students currently performing thesis research, it is also important to develop guidelines for immersive laboratory research rotations that allow incoming doctoral students to make an informed selection of thesis mentor, thesis project, and laboratory environment while also balancing both the safety of incoming students and the safety of laboratory members who will be responsible for their training during research rotations. Similar needs for alternative and flexible pathways to developing feasible research projects may present themselves for students who are in the early stages of research development in fields that do not depend on research rotations. (Primary responsibility for implementation: doctoral programs, schools and colleges)

Recommendation 7: Provide pathways to support the matriculation of international students. Graduate and professional programs are ready to welcome international students for Fall 2020; however, their matriculation faces two barriers. First, consulates are closed and travel is restricted. Therefore, international students may not be able to receive their F-1/J-1 visas in time to arrive for the start of the Fall 2020 term. Second, international students value in person instruction to the degree that they may defer admission if their instruction is fully remote or if they are not classed as participating in person for the purposes of federal immigration reporting. To address these two barriers, the committee recommends mitigating uncertainty by organizing central guidance about critical decision dates and policies that programs can apply to maximize opportunities for international students to matriculate. These central guidance and policies include: (i) communication of the last date for consulates to reopen before the probability of international students arriving for fall 2020 becomes very low; (ii) development of a temporary policy to allow appointment of matriculating international students for remote work and study as GSIs, GSRAs, or on fellowship in Fall 2020; (iii) determine limits on access to UM instructional tools and online content from international locations and implement plans to mitigate the effects of these limits. With this central guidance in hand, school/colleges, including Rackham, can develop templates for direct communications with international students to confirm instructional opportunities, the possibility of late arrival in the fall, as well as options to defer admission. Additional discussion and recommendations are included as a stand alone appendix that can be used separately from this report. (Primary responsibility for implementation: central units, schools and colleges, graduate and professional programs)
Recommendation 8: Support graduate and professional students who face unavoidable, added responsibilities in their personal lives as a result of COVID-19. We offer three examples of such responsibilities that might occur in Fall 2020. First, compliance with public healthcare guidelines may mean that day care centers and schools operate at limited capacity and/or with modified/reduced schedules in Fall 2020. For instance, UM Towsley Children's House expects to be able to accommodate 50% of the children who were enrolled prior to the pandemic. This will inevitably impact the ability of parents to be productive. Effects will be likely more severe for professional and graduate students who are less likely to be able to afford private childcare. Second, students who are caregivers for parents may face similar impacts on their ability to participate in courses, research, and other activities. Finally, job losses in the State of Michigan could affect students, through their need to take on additional employment to support their families. To mitigate the negative impacts of these unavoidable, added responsibilities, programs are encouraged, to the extent that is possible, to allow flexibility in expectations (e.g., of working hours, deadlines, work load, shifts, time to degree, preliminary exam requirements, etc.), to communicate any changes in these expectations in a clear and timely fashion, to solicit students’ input and feedback as expectations evolve, and demonstrate transparency in how these decisions are being made. It is also helpful to communicate any expectations for shifts, rotations etc. timely and transparently to all students. Skill-building workshops (e.g., written scholarly communication, networking skills) by programs for affected students may also help them mitigate the impact of their reduced productivity. Central unit initiatives to support graduate and professional students who face these added responsibilities would be welcome. (Primary responsibility for implementation: central units, graduate and professional programs)

Recommendation 9: Develop mechanisms for academic support, wellness, and community of graduate and professional students. Though alterations to graduate and professional student instruction and research experiences are necessary in response to COVID-19, these changes will likely further impact the wellbeing of students who are already facing elevated concerns for health and safety, financial security, career prospects, and social isolation - among others. Students also report concerns about safeguarding their privacy in an environment in which health information may be collected and acted upon as a condition of study or research. Therefore, increased support for programming implemented by University schools, departments, and student organizations that is geared towards promoting student mental and physical wellness, academic success, professional development, communication between students and administration, and student social interactions is vital. Programs should ensure that students have adequate support to engage in their academic work and community-building activities whether they are remote or in-residence. Consider alternative means of “community building” through virtual and social distanced-compliant means, in order to foster connectivity within cohorts and peer support to enhance well-being. Skill-building workshops (e.g., written scholarly communication, networking skills) offered by programs or schools and colleges may help students in their degree progress, research productivity, and career pathways. In this work it is critical that support – staffing and funding – be allocated to address accommodation for graduate and professional students with disabilities, especially for the new ways in which remote instruction is designed. (Primary responsibility for implementation: schools and colleges)

Recommendation 10: Consult with representatives of school/college graduate and professional student organizations about these recommendations and their implementation. The creation of formal
opportunities for graduate and professional student representatives to (i) engage with members of this committee and/or other University leaders involved in the implementation of these proposals and (ii) provide direct input on the proposed recommendations will help to ensure that the issues we address and final decisions for Fall 2020 academic activities are informed by the wide variety of experiences, concerns, and needs of graduate and professional students. *(Primary responsibility for implementation: Provost Office, members of this committee, schools and colleges)*

**Scenario 2: Fully Remote Instruction**

The spectrum of possibilities our committee considered within the hybrid scenario accommodates this scenario as a limit; therefore, we offer only one brief recommendation to recognize special consideration that graduate and professional programs would require under fully remote instruction for Fall 2020.

**Recommendation 1:** Even under fully remote instruction or operation, some residential educational activities of graduate and professional students should be considered to continue to the extent allowed by the State of Michigan. We offer two critical examples: 1) Fully remote instruction will impact the ability of some professional students to participate in clinical environments that are both necessary for their training and required for degree completion and licensure; 2) Doctoral students should continue to have the opportunity to continue their participation in the university’s research enterprise to the extent that it operates, because that participation recognizes their dual role as both students and scholars, and as necessary for their degree completion. *(Primary responsibility for implementation: Provost’s Office)*

5. **APPENDIX**

**Recommendation to support the matriculation of international students in fall 2020**

*Provost’s Fall 2020 planning committee for graduate and professional programs and students*

**Recommendation: Provide pathways to support the matriculation of international students.**

Graduate and professional programs are ready to welcome international students for Fall 2020; however, their matriculation faces two barriers. First, consulates are closed and travel is restricted. Therefore, international students may not be able to receive their F-1/J-1 visas in time to arrive for the start of the Fall 2020 term. Second, international students value in person instruction to the degree that they may defer admission if their instruction is fully remote or if they are not classed as participating in person for the purposes of federal immigration reporting. To address these two barriers, the committee recommends mitigating uncertainty by organizing central guidance about critical decision dates and policies that programs can apply to maximize opportunities for international students to matriculate. These central guidance and policies include: (i) communication of the last date for consulates to reopen before the probability of international students arriving for fall 2020 becomes very low; (ii) development of a temporary policy to allow appointment of matriculating international students for remote work and study as GSIs, GSRAs, or on fellowship in Fall 2020; (iii) determine limits on access of UM instructional tools from international locations and possibilities to mitigate the effects of these limits. With this central guidance in hand, school/colleges can develop templates for direct communications with international students to confirm instructional opportunities, the possibility of late arrival in the fall, as well as options
to defer admission. Additional discussion and recommendations are included as a stand-alone appendix that can be used separately from this report.

Additional Discussion, Detail, and Recommendations

The Problem to Solve

Schools, colleges, programs, and other units involved in admitting, orienting, and matriculating international students in the 2020 fall term must plan and coordinate a complex set of decisions that anticipate uncertainty in both the ability of admitted international students to travel to Ann Arbor and the nature of fall 2020 instruction. Timetables vary across undergraduate, graduate, and professional school programs, but all share certain commonalities. This guidance carries recommendations to help units manage this uncertainty by anticipating and planning for a range of possibilities that support matriculation of international students in the fall 2020 academic term.

Challenges

1. Uncertain ability of international students to travel to Ann Arbor
   1. Unknown date that US consulates will re-open for visa interviews, and whether the State Department and Homeland Security will adopt any measures to expedite issuing of visas.
   2. Unknown date for lifting of travel restrictions from certain countries to the US.
   3. Unknown date for resumption of international flights

   Central Guidance from the International Center: If US consulate visa interviews have not resumed by July 31, 2020, or if there has been no announcement of such a reopen date by June 30, 2020, then the probability is low that students will receive their immigration documents in time to arrive in the US and assume residence for in person instruction by the SEVIS reporting deadline of September 28, 2020. In this eventuality, academic programs should assume at that time that students will not be able to activate their F-1/J-1 visa for in-person fall enrollment. They should proceed with plans to either offer Fall 2020 instruction to these students in their home countries or defer their admission to Winter 2021 or Fall 2021.

2. Many international doctoral students hold would regularly hold appointments as GSIs or GSRAs or are on fellowship in their first term
   1. In consultation with the International Center, Academic Human Resources, Office of General Counsel, and Office of Research, Rackham Graduate School has assembled the following guidance: International students may matriculate and begin their studies via remote instruction, and programs may appoint them as GSRAs or GSIs/GSSAs or award them fellowships with a remote work agreement.
   2. These appointments and awards are to be made at the discretion of the graduate program.
   3. Payment options are still under development.
   4. Program-level attention to export controls and research compliance is required.
   5. This guidance is undergoing finalization and will be distributed by Rackham to doctoral programs as soon as available
3. Uncertain willingness/ability of international students to matriculate if their instruction will be remote in Fall 2020
   1. Eligibility for spring/summer CPT requires two academic terms in F-1/J-1 status unless the CPT experience is required of all students.
   2. ITS is evaluating the availability of UM instructional tools in different countries
   3. Resolution of potential late arrivals to campus – it is necessary to establish and communicate the degree to which international students can convert between different instructional modes if they arrive late.

Recommendations to support International Student Matriculation

Recommendations to Academic Programs

1) As for all students, international graduate, professional, and doctoral students will benefit from the following general academic preparations
   a. Prepare instructional plans to accommodate remote, hybrid, and in-person participation in Fall 2020.
   b. Prepare research mentorship plans to accommodate both remote and in person participation.
   c. Develop flexible degree pathways for current and incoming students to allow sequencing of courses in ways that allow progress toward degree in remote, hybrid, and in person formats.

2) Take steps to accommodate the late arrival in fall 2020 of international students, especially for orientation and acclimation.

3) For doctoral students: Decide whether to appoint international students on fellowship, GSI, or GSRA for fall term or defer their matriculation to Winter 2021 or Fall 2021. Make decisions about appointment and deferral in an equitable manner. Communicate available options to international students in their programs in mid-June, shortly after campus instructional plans are announced

Recommendations to Schools & Colleges, including Rackham

1) Decide and/or communicate deferral policies for students in graduate and professional programs; undergraduate policies will be coordinated by Office of Enrollment Management

2) Communicate to programs guidance on appointing international students to GSRA and GSI positions and offering fellowships to those who are located remotely and assist them in implementing the guidance.

3) Move orientation and acclimation activities online for Fall 2020 and plan for midterm arrival of some international students.

4) Recommendation to Rackham to support doctoral programs: By early June, communicate with programs about what information they will need to provide to international doctoral students about their options to matriculate. As part of this communication, Rackham should recommend that programs: (1) decide if they will appoint international students in fall term or seek to defer them; (2) decide if they are willing to have their students arrive later in Ann Arbor, depending on visa issuance, and support them for late orientation; (3) communicate their academic plans to international students, along with more general information about what the fall 2020 instructional outlook is, presuming a Provost announcement
of that having occurred just prior. The communication would address the remote, hybrid, and in person options available, and the plans formulated to accommodate the uncertain opening of consulates. For (3), Rackham should provide a template letter that programs can use to communicate with their international students in this way.

**Recommendations to the Provost Office**

1) Consider possibility of entering into agreements with other institutions to host international students temporarily in their country of origin;

2) Work with ITS to assess the degree to which U-Michigan remote instruction tools will be available at international locations and if there are available ways to increase access if needed.

3) Continue advocating for consulates to reopen and for the critical role of international students play in the university, region, and nation.
Committee on Curricular Support, Extra-Curricular and Co-Curricular Activities, and Engaged Learning

Fall 2020 Planning Committee Recommendations

Committee Chair:  Lynn Videka, Dean, School of Social Work
Mary Jo Callan, Director, Ginsberg Center
Amy Conger, Associate Vice Provost and Director of Global Engagement
Barry Fishman, Arthur F. Thurnau Professor of Learning Technologies, Schools of Information and Education
Paula Lantz, Associate Dean for Academic Affairs, James B. Hudak Professor of Health Policy, Ford School; Professor of Health Management and Policy, School of Public Health
Carrie Luke, Enrollment Strategist and Implementation Lead, Office of Enrollment Management
Robert Sellers, Vice Provost for Equity and Inclusion, Chief Diversity Officer; Charles D Moody Collegiate Professor of Psychology and Education, LSA
Will Sherry, Director, Spectrum Center and Project Lead Manager, Student Life
Rob Stephenson, Chair, Department of Systems, Population, and Leadership, Director, Center for Sexuality and Health Disparities, School of Nursing
Kierra Trotter, Director, Comprehensive Studies Program, LSA

May 29, 2020
Executive Summary

This committee’s charge is to develop recommendations to enhance access to key academic resources that assist and support student learning and success, as well as plans and guidelines to enhance the range of student academic experiences that contribute to student learning. The primary objectives of the Committee on Curricular Support, Extra-Curricular and Co-Curricular Activities, and Engaged Learning are to 1) ensure that the large number of units that provide support for learning (e.g., Science Learning Center, Sweetland Center for Writing) and student engagement experiences (co- and extra-curricular) are available remotely, and 2) recommend strategies to assist students in navigating these activities.

The committee’s domain is vast and important. Curricular support, extra-curricular and co-curricular, and engaged learning activities are at the heart of the “Michigan Experience” for all students. They encompass the aspects of the “Michigan Experience” that sets a Michigan education apart from the other premier universities in the nation. In the academic year 2020-21 and beyond, regardless of how the University is delivering on our core mission of teaching, these experiences and support structures must be available to our students because they are critical to their continued success. The committee considered the broad range of programs in three areas: 1) Student Wellness and Well-Being, 2) Academic Support, 3) Engagement and Community-Building

The committee approached its work with the strategic vision that the 2020-21 academic year presents an opportunity to strengthen and transform an already strong-set of activities and services to be stronger, more inclusive, and more accessible to the diverse student body of the University of Michigan — graduate and undergraduate students, students who live on campus and off campus, students with different life circumstances, students with a range of technical and other abilities, and students with varying economic circumstances. We endorse careful planning that is rooted in recognition of the strength of the faculty, students and staff who lead curriculum support and engagement experiences, and who ensure that students’ learning goes beyond the classroom. We also endorse student-centered collaboration as a method of achieving lasting excellence and true responsiveness and accessibility to the highly diverse group of Michigan graduate and undergraduate students.

Guiding principles for the committee’s work emanate from the strategic vision outlined above. Our faculty, students, and staff are strong, able, and committed. They will achieve their best when they collaborate toward their shared goals to support, advance, and enrich students’ learning, maturation, and capacity to be humane and generative members of society. Excellent services and programs are accessible to all students and delivered in a variety of formats.

The committee organized our recommendations in two domains, 1) recommendations that are principally for the central University, and 2) recommendations that can be implemented at the unit level (department, school, office, or student organization). The role of the central University is to set up structures and supports for curricular support, extra-curricular and co-curricular, engaged learning and social and community-building activities. The roles of the unit are to plan and implement accessible activities to serve all students.

Recommendations 1-3 are targeted for implementation before or during Fall, 2020. They focus on central administrative unit’s actions, and include:
**Recommendation 1:** Curricular support, extra-curricular and co-curricular, engaged learning and social and engagement activities are more important than ever for students in the 2020-21 academic year, but in order to provide them, public health safety guidelines need to be specifically defined for off-campus engagement activities.

**Recommendation 2:** Launch campus-wide **Communities of Practice** in Well-being/Wellness, Academic Support, and Belonging/Community-building for faculty and staff for purposes of planning and collaboration throughout the upcoming academic year and beyond.

**Recommendation 3.** Equip instructors with the tools and knowledge to foster community within the classroom.

Recommendations 4, 5, 7 and 8 are important to implement for fall, 2020. These focus on the unit, office or program level acton.

**Recommendation 4:** If they have not already done so, curriculum support services, co-curricular units, and groups engaged in community building activities should be encouraged to participate in the **Communities of Practice** for the purpose of planning for continuous improvement, not only for the 2020-21 academic year, but also for the university of the future.

**Recommendation 5:** Strong student-centered outreach through technology and in-person contacts will be essential to engage every student in the “Michigan Experience” in the 2020-21 academic year. Identify what services and activities are best done remotely and in person.

**Recommendation 7:** High quality hybrid/hyflex curriculum support services should be an integral method of delivering curriculum support services for the academic year 2020-2021 and beyond.

**Recommendation 8:** Strong technical support is essential for students as well as for curriculum support units and activities.

The committee focused primarily on the hybrid/hyflex model. If the Fall, 2020 semester is entirely remote, all in-person activities and services will have to be provided with adjustments of in-person components, and we recommend that synchronous video conferencing tools, telephone contacts and regular mail be used to stay in touch with every student.
Committee on Curricular Support, Extra-Curricular and Co-Curricular Activities, and Engaged Learning Overview

This committee’s charge is to develop recommendations to enhance access to key academic resources that assist and support student learning and success, as well as plans and guidelines to enhance the range of student academic experiences that contribute to student learning.

The primary objectives of the Committee on Curricular Support, Extra-Curricular and Co-Curricular Activities, and Engaged Learning are to 1) ensure that the large number of units that provide support for learning (e.g., Science Learning Center, Sweetland Center for Writing) and student engagement experiences (co- and extra-curricular) are available remotely, and 2) recommend strategies to assist students in navigating these activities.

Committee Membership

- Mary Jo Callan, Director, Ginsberg Center, Lecturer, School of Social Work
- Amy Conger, Associate Vice Provost and Director of Global Engagement, Office of the Provost
- Barry Fishman, Arthur F. Thurnau Professor of Learning Technologies, School of Information and School of Education
- Paula Lantz, Associate Dean for Academic Affairs, James B. Hudak Professor of Health Policy, Ford School; Professor of Health Management and Policy, School of Public Health
- Carrie Luke, Enrollment Strategist and Implementation Lead, Office of Enrollment Management
- Robert Sellers, Vice Provost for Equity and Inclusion, Chief Diversity Officer, Office of the Provost; Charles D Moody Collegiate Professor of Psychology and Education, LSA
- Will Sherry, Director, Spectrum Center and Project Lead Manager, Student Life
- Rob Stephenson, Chair, Department of Systems, Population, and Leadership, Director, Center for Sexuality and Health Disparities, School of Nursing
- Kierra Trotter, Director, Comprehensive Studies Program, LSA
- Lynn Videka, Dean, Carol T. Mowbray Collegiate Professor of Social Work, School of Social Work (Chair)

Introduction and Role of Curricular Support, Extra-Curricular and Co-Curricular Activities, and Engaged Learning at the University of Michigan

This committee’s domain is vast and important. Curricular support, extra-curricular and co-curricular, and engaged learning activities are at the heart of the “Michigan Experience” for all students. They encompass the aspects of the “Michigan Experience” that sets a Michigan education apart from the other premier universities in the nation. In the academic year 2020-21 and beyond, regardless of how the University is delivering on our core mission of teaching, these experiences and support structures must be available to our students because they are critical to their continued success. Curricular support, extra-curricular and co-curricular, and engaged learning activities are not limited to the activities of Academic Affairs. It is essential to view curricular support, extra-curricular and co-curricular, and engaged learning activities as University-wide resources across divisions, particularly across Academic Affairs and Student Life. Partnerships and collaboration are essential in order to deliver the “Michigan Experience”. Curricular support, extra-curricular and co-curricular, and engaged learning activities are essential to every successful academic year. They contribute not only to the academic success of the student, but also to the development of our students, and their life-long productive engagement in society. We want to encourage vibrant student participation in curricular support, extra-
curricular and co-curricular, engaged learning, and social and community building activities for every student at U of M, both in-person and virtually, as needed, desired, and is possible in order to keep our community healthy.

As with many aspects of the U of M; offices, units, and organizations engaged in these activities are distributed and there is no centralized listing or organization of these programs. The Provost’s Office provided a List of 44 Units. The Engaged Learning website lists 28 engaged learning centers and partner programs. Only six initiatives appear on both lists. The link to Student Well-being Resources lists 78 resource offices, and there is a dedicated program for Student Wellness Coaching. These lists do not include many school-level services, services in athletics, or services delivered through central units housed within the Office of the Provost or Student Life. The University has curriculum support and extra-curricular activities that are campus-wide. Every school and college, large and small, has additional student curriculum support programs ranging from embedded wellness counselors, to residential learning communities, to student clubs and organizations, to writing and other academic support, to a broad range of engagement opportunities in student organizations, special projects, and engaged learning.

Although everyone hopes that many types of in-person interactions will be able to take place on campus in the new academic year, committee members focused both on in-person contacts and on maximizing the University’s capacity to deliver remote curriculum support services and co-curricular activities for several important reasons. First, although the numbers are not known at this time, there are certainly students and staff who are high-risk for serious complications from COVID-19 and thus are not able to be exposed to others even with public health protections in place. In addition, the significant likelihood of future outbreaks of COVID-19 and stay-at-home orders in Michigan require that all student support services and co-curricular activities be flexible, nimble, and able to rapidly move fully to virtual spaces. This flexibility will also serve international students who may face travel restrictions and visa delays that prevent them from being on campus for the start of the semester.

The committee considered the broad range of programs in three areas:

1. Student Wellness and Well-Being
2. Academic Support
3. Engagement and Community-Building

Committee members focused on the following questions: How can we raise awareness among students, their advisors, faculty members, and others about the wide array of curriculum support services at the University of Michigan? What are the most effective strategies for ensuring student well-being during this upcoming unpredictable, hybrid or remote academic year? How can we assure academic success for all students; particularly for students who have special circumstances or needs during the COVID-19-affected academic year? How do we create a sense of belonging and community in a virtual environment, both within the classroom and beyond? How do we give students access to the indirect networks that are so crucial to the Michigan Experience? What are things we can do to make this easier for our units?
Scenario 1: Hybrid/Hyflex Instruction (or Operation)

General Assumptions
This committee approached its work with the strategic vision that the 2020-21 academic year poses a tremendous opportunity to strengthen and transform an already strong-set of activities and services to be stronger, more inclusive, and more accessible to the diverse student body of the University of Michigan -- graduate and undergraduate students, students who live on campus and off campus, students with different life circumstances, students with a range of technical and other abilities, and students with varying economic circumstances. We endorse careful planning that is rooted in recognition of the strength of the faculty and staff who lead curriculum support and engagement experiences, and who ensure that students' learning goes beyond the classroom. We also endorse student-centered collaboration as a method of achieving lasting excellence and true responsiveness and accessibility to the highly diverse group of Michigan graduate and undergraduate students.

We adopted the aspirational vision of continuous improvement. We purposefully choose “continuous improvement” as a frame over that of “disrupted semester.” We firmly believe that we are in the midst of a sea-change in higher education. We do not expect the changes of the Winter, 2020 and Fall, 2020 semester to be short-term. We see this as a time of opportunity to create a stronger, more diverse and accessible University that will use technology to its full potential to help reach its goals and reach all of its students. We believe that we will find ways to integrate “remote” and “in-person” services to the benefit of all students.

There is tremendous staff and leadership strength in the offices and organizations that deliver curriculum support and engagement services and in the student-led organizations. The leaders and staff of these programs and activities are the experts in their own domains, yet much will be gained by fostering collaboration among them for optimal future growth and strength of the “Michigan Experience”. The committee’s working assumptions for hybrid or hyflex instruction for the 2020-21 academic year include the following:

- The leadership and staff of U of M’s curriculum support programs are capable and dedicated to student success. Thus, with adequate resources, the curriculum support units are up to the task of modifying their programs to reach students in a hybrid or remote semester.

- There will be students, staff, and faculty who are not able to participate in person, thus as many curriculum support services as possible should be available and accessible to all students in remote and in-person formats.

- There will be technology support sufficient to implement the committee’s recommendations. It is of the utmost importance that sufficient technology, support, equipment, software, and training for staff to use the technology to promote maximum student engagement and learning is available to all offices.

- Public health protections including social distancing, personal protective equipment (PPE), environment disinfecting, testing, and contact tracing will be available up to the standard set by the University.
● All curriculum support and extra-curricular resources will be readily accessible to all students. All services will use principles of universal design to assure equity and inclusion in both remote and in-person formats.

● Resources are sufficient to continue the unit’s work in both remote and in-person formats. This includes the following: a) administrative support and coordination for scheduling appointments, b) office space, including common areas (kitchens, waiting areas), c) phone lines, d) frequent email and social media messaging to students (consider coordinating with “like” services/units), e) space for people to do work that would normally be done in-person but is now remote. For example, do student staff still have the option to work from office space or are they required to work from their residence?

● Lessons learned from the disrupted winter 2020 semester suggest several areas that will continue to be challenges for the fall term. These include:
   1. Student and staff difficulties with technology access and use, either because of poor internet connections in their residences or because of fear and lack of experience with technology tools for learning or providing support.
   2. Reaching and communicating with students can be a challenge, and communication remotely is a bigger challenge.
   3. Access for some students (e.g., those who are parenting, have unstable economic situations, students with disabling conditions or with behavioral health needs) pose a particular challenge.

Guiding Principles

Guiding principles for the committee’s work emanate from the strategic vision outlined above. Our faculty, students, and staff are strong, able, and committed. They will achieve their best when they collaborate toward their shared goals to support, advance, and enrich students’ learning, maturation, and capacity to be humane and generative members of society. Excellent services and programs are accessible to all students and delivered in a variety of formats. Specific guiding principles that are based on this strategic vision and worldview include the following:

● Three strategic goals frame our recommendations for U of M curriculum support for the 2020-21 academic year:
   1. Promote academic success
   2. Support student wellness and well-being
   3. Deliver a signature U of M student experience that fosters belonging and social connectedness in a virtual environment.

These common goals are intended to guide units in developing support services and prioritizing resources while allowing them the flexibility needed to implement support measures that align with different disciplinary cultures and student needs. This approach also leverages the existing expertise that already resides in our units and programs. Curriculum support services in the new academic year will abide by public health safety guidelines and prioritize the health of students and staff.
• All services and programs will be offered virtually as well as in person. While in-person contact remains highly valued, only in-person services that are safe to offer under the public health framework will be supported.

• The profound changes in higher education represent an opportunity to redefine curricular support, extra-curricular and co-curricular, and engaged learning activities so that they are attractive to students, accessible and based on universal design. We have the opportunity to create even strong and more useful curricular support, extra-curricular and co-curricular, and engaged learning activities to benefit students.

• Equity and inclusion will drive decisions. Inclusion is defined as a commitment to pursuing deliberate efforts to ensure that our campus is a place where differences are welcomed, different perspectives are respectfully heard, and where every individual feels a sense of belonging and inclusion (https://diversity.umich.edu/about/defining-dei/). Equity is defined as equipping every student with the resources they need to be successful, through careful planning and using principles of universal design.

• Responsiveness to student needs and points of view is essential — both in terms of addressing the content of their concerns and doing so as immediately as possible in a manner that students find attractive and responsive. Student voices in driving and structuring curriculum support and extra-curricular activities are essential. Diverse methods (e.g., using principles of universal design) in structuring services and participation opportunities will ensure focused support for students with the greatest need for services as well as resources that meet all students’ needs. Student input, creativity, and participation in the redesign of academic support services and co-curricular activities is essential.

• Principles of high quality virtual University curriculum support will drive our decisions. It will be important to have technological equipment, training to use it, and provision of a variety of technologies available and deployed in every office and organization.

• Collaboration will produce the best support of the curriculum and students. This means collaborating and co-creating across units and across University divisions.

• Use and improve performance based on the lessons learned from the disrupted winter 2020 term to prepare for a transformed universities that are highly hybrid institutions in the future.

**Recommendations for Curriculum Support in a Hybrid/Hyflex Academic Year 2020-2021**

We organized our recommendations in two domains, 1) recommendations that are principally for the central University, and 2) recommendations that can be implemented at the unit level (department, school, office, or student organization). The role of the central University is to set up structures and supports for curricular support, extra-curricular and co-curricular, engaged learning and social and community-building activities. The roles of the unit are to plan and implement accessible activities to serve all students.
Recommendations for Central University Divisions

**Recommendation 1:** Curricular support, extra-curricular and co-curricular, engaged learning and social and engagement activities are more important than ever for students in the 2020-21 academic year, but in order to provide them, public health safety guidelines need to be specifically defined for off-campus engagement activities.

This is a recommendation for central University decision-making. Off-campus engaged learning can strengthen community connections and enrich the curricular experience for U of M students. These activities can involve outings, collaboration with external non-profit or arts organizations, and other activities in environments in which U of M does not set the public health safety standards. Engaged learning experiences should be encouraged wherever safe and legal, but clear public health and safety guidance is needed before the beginning of a public health informed hybrid/hyflex academic year. The Provost’s Office Guidance for Spring/Summer Engaged Learning could serve as a starting point. However, the current guidance is limited because it contains no public health guidance for unit-level approval. Public health safety guidelines that units can apply in making their decisions would be useful. While these activities are not covered by the work of other committees, the policies and safety guidelines for clinicals, practica, and internships can inform engaged learning and community building activities that take place off-campus.

**Recommendation 2:** Launch campus-wide Communities of Practice in Well-being/Wellness, Academic Support, and Belonging/Community-building for faculty and staff for purposes of planning and collaboration throughout the upcoming academic year.

There is a lot to be gained from bringing units with similar purposes across U of M together to plan and work together for the benefit of students in the 2020-21 academic year and beyond. To promote this collaboration, central resources should be devoted to convening colleagues from programs with similar goals. Programs could self-define as primarily focused on one or more communities of practice. We recognize that many activities and programs address two or all three program goals. We think the units should determine which community of practice to affiliate with. Through collegial exchanges, programs can confer with one another to develop best practices for the academic year and to build collaborations where it makes sense to do so. Existing communities of practices should also be leveraged in this capacity and/or brought together to foster greater sharing of best practices and support.

A series of Summer Conversation Circles for each community of practice should begin soon, since much fall planning work is already underway. Convening colleagues sooner rather than later will facilitate synergy by using the resources and talent within the University. This is a cost-effective strategy for planning and innovation. This approach will promote synergy across units and areas of academic and co-curricular support.

Conversation Circles should attend to facilitating lines of sight and collaboration between Curriculum Support, Wellness/Well-Being, and Belonging/Building Community groups to maximize collaboration with one another for the purposes of efficiency and sharing good ideas and best practices. Central units
(provost level and school level units) should provide infrastructure and support for — and potentially aid in facilitating — these collaborations whenever possible and appropriate.

The **Communities of Practice** will also create opportunities for crowdsourcing solutions to problems that arise and promote continuous learning and improvement throughout the academic year. For example, it is important to identify if the activity’s or program’s current capacity is enough to meet anticipated needs from students. Units should consider ways to both build efficiencies and increase capacity as needed over the summer to prepare for the fall and winter terms. By working together, we can achieve more efficiencies in how we serve students.

**Recommendation 3.** Equip instructors with the tools to foster community within the classroom.

This is a recommendation that is targeted to the central University units (especially CRLT) as well as schools and colleges. While many efforts to promote a sense of belonging and community will happen outside the classroom, we should also enhance instructors’ (faculty and graduate students’) capacity to foster community within their courses. This should be an explicit aspect of the support that will be provided to instructors by other schools and colleges as well as department-based support. CRLT has some model programs for community-building in the classroom, and would be a perfect group to develop more tools for engagement in hybrid education.

**Recommendations for Offices, Organizations, and Collectives Providing Curricular Support, Extra-curricular and Co-curricular, Engaged Learning, and Social and Engagement Activities**

**Recommendation 4:** If they have not already done so, curriculum support services, co-curricular units, and groups engaged in community building activities should be encouraged to participate in the **Communities of Practice** for the purpose of planning for continuous improvement, not only for the 2020-21 academic year, but also for the university of the future.

Each curriculum support, co-curricular, and engagement-building unit or organization should think about how to deliver its core mission and goals in response to the new COVID-19 environment, and in anticipation of a deeply changed higher education environment of the future. Essential in-person services should be specified, and where the student cannot participate in in-person service, even these should be adapted to remote access. Universal design technologies for remote access should be specified and obtained. Engagement of students is essential and students should be engaged in the unit’s reinvention planning. Several planning approaches are laid out in the next paragraphs.

Generative self-assessment questions that can guide units’ planning processes include a focus on what has been learned from the Winter 2020 experience. The Committee piloted 5 questions with several curricular support, extra-curricular and co-curricular, and engaged learning programs. These included:

- What worked well for you in the transition to providing remote support last Winter? What approaches or technologies were most valuable in this success?
- What were your biggest challenges in the Winter term transition? What contributed to those challenges?
• What strategies are you considering to address the challenges if we have to be remote again in the Fall?
• Are there particular students you are most concerned about being able to access your services if we are online or hybrid?
• What ideas or suggestions do you have for delivering fully online or hybrid academic support to students that could be helpful to other offices/units?

As an alternative example, the Comprehensive Studies Program used an alternative set of planning questions for their Fall, 2020 planning.

1. In transitioning to remote support in winter 2020 (and/or delivering distance support previously), what important lessons did we learn?
2. What functional aspects of our work must be performed in person?
3. What services and methods can we use to meet the needs of the most students at once?
4. What challenges do we anticipate facing in order to achieve this, and what strategies might we consider to do so?
5. If there is increased demand for our services in the fall, how might we address that expanded need?
6. Of the students we serve, how might we center those who are most at-risk/vulnerable, so that we can fully support all of our students? (universal design)
7. What other units could we work with to develop efficiencies and share best practices?
8. What assertive outreach methods might we need to use to reach students who cannot participate in in-person activities? What is appropriate in our context?

Student organizations are also planning for how they will move forward in the new academic year, and here are some questions they might consider throughout that process include:

1. What is the most meaningful and critical work of our organization, and why? (It might help to generate a list of everything you do and then collaboratively prioritize the three or five most important aspects of your org’s work.)
2. How can our most meaningful work continue during this unique time?
3. What support and/or resources do we need to make this work possible? What additional and/or different infrastructure might we need to be successful this year?
4. Are there other student organizations or groups with whom we can collaborate to make our work more impactful and efficient?
5. Do any of the events we typically hold or plan to hold translate to an online format? How might we deliver those in ways that keep their essence while innovating at the same time?
6. How might the current leadership roles of our org need to shift — and what new roles might we need to consider — to foster success this year? (e.g. Would our organization benefit from a new role like an “online engagement coordinator” to serve as a point person for online activities and to ensure members and participants are able to join meetings and events?)
7. What are other ways in which we may need to organize ourselves differently? (e.g. Mass meetings, meeting frequency, how we keep everyone in the loop about what’s going on.)
8. What aspects of our work need to pause until next year? What do we need to document for those leaders to ensure sustainability and continuity of our work?
9. What questions are we struggling with the most? What can we do at future meetings to help address these questions?
The unit’s plan should include a strategy to offer remote and in-person access. Multiple and new strategies are likely to be necessary in order to reach and include every student in a semester that will be hybrid/hyflex at best and may change to remote at any moment should public health require it. It will be essential to consider the variability of students’ contexts, resources, access, etc. and identify ways to individualize each student’s experience to best serve them in ways that are still within the unit’s mission and ability. It will be important to consider how these unique circumstances can create unique learning opportunities for students, e.g. engaged learning projects that could contribute to positive community impact, research, professional experience, etc.

In cases where curriculum support was previously provided “on demand” for learners, a higher level of outreach may be required to ensure that learners—especially those with greater needs—are aware of and know how to request support. “Roll call” mechanisms might be necessary to ensure that every student is reached and that learners do not fall between the cracks.

**Recommendation 5:** Strong student-centered outreach through technology and in-person contacts will be essential to engage every student in the “Michigan Experience” in the 2020-21 academic year. Identify what cannot be done remotely and deliver it in person.

Active engagement and outreach to students will be important for both remote services and in-person approaches. Collaboration between academic units and Student Life holds promise in maximizing this engagement, especially for students involved in registered student organizations. Student Life has built infrastructure that can be leveraged this summer and fall, including established robust communication channels and supports for the more than 20,000 students involved in 1,600 registered student organizations.

Even in a hybrid/hyflex semester, not all curricular support, extra-curricular and co-curricular, and engaged learning activities will be delivered virtually. In-person activities add significant meaning and value to students’ academic experience and success. Curricular and student support programs and activities should consider how in-person contact can be complementary to remote engagement strategies in safe and controlled ways (e.g. one-week intensives, one day per week in-person). The current draft instructional strategy plan will rely on curriculum support programs to provide some in-person contact with residential students as an essential part of delivering the curriculum in the 2020-2021 academic year.

**Recommendation 6:** Create a central web portal or a set of web portals to help student and their advisors navigate the range of campus services in the areas of academic support, wellness and well-being, and building a sense of belonging and community.

Navigating the U of M web environment can be challenging, especially for new students who have not yet learned our decentralized structures or had a chance to build social networks for peer referrals and advice. We think that a central web portal that is built with student consultation and the input of leaders in the Wellness/Wellbeing, Academic Support and Belonging/Community-Building areas will be a great resource for students, as well as faculty and staff (for student advisement and referrals) across campus.

There are already several central websites that can serve as a resource for a single hub and the resources that should be included in it. One idea is to create a central portal for students to explore life
at Michigan, following the Youth Hub model from CEO. The Youth Hub is an online web portal that is designed to provide K-12 parents and students one-stop shopping regarding the various summer enrichment opportunities that are available at U of M. The portal provides tiles that link back to the websites of the different summer programs across campus; thus, allowing the host units to maintain and update their programs and information. A portal for curricular and co-curricular support could follow a similar format, with pathways for our strategic goals of academic success, well-being and wellness, and belonging and community. This project should engage students in developing common questions and co-designing a site framework that would appeal to their peers.

Another example is the Student Well-Being Website, which is comprehensive and interactive, providing another hub-idea model. The users of this hub acknowledged that even it is incomplete in terms of all well-being and wellness resources across the campuses, and it is still underused, despite being included on all CANVAS portal sites across campus. Strengthening the existing Student Well-Being Website will increase access to and engagement in well-being information, especially if more work is done on student-friendly promotion and web navigation systems. Leads for the Health & Wellness Collective Impact Team, stewarded by Student Life, should meet to discuss processes for strengthening the Student Well-Being Website, and to identify and curate key well-being needs or resources that are not currently being acknowledged through the site.

On a logistical level, building this kind of hub becomes much more complicated. Some recommendations for how it might be executed include convening planning teams in Well-Being/Wellness, Academic Support, and Belonging/Community-Building. Planning teams could consider the following questions to guide their work:

- Which unit would own this site and can it be shared?
- Which units would be part of a coalition to ensure it is robust and well-executed?
- Who (which actual position) would be responsible for keeping it up to date?
- How would it serve both short and long-term student needs?
- What would be within scope and out of scope?

Proposing answers to these above questions would help give this recommendation legs.

To be ready for the fall, we could start by leveraging existing portal, such as the Engaged Learning website, the Student Well-Being website and the Student Wellness Coaching website and co-brand and co-locate access to them centrally. There is also promise in leveraging SalesForce toward greater coherence and connectivity for students. Building and maintaining one "mega portal" to try to capture every element of the student experience will take time, resources, and significant will.

Building a cohesive online identity, as an institution, for curriculum support resources will also be important. We should seek every opportunity to remind students about the central portal and create an icon/link to be displayed on University and unit-level websites that invites them back to this shared resource. We should disseminate information regarding the central portal to all appropriate points of student contact (including orientation, faculty, school and college websites, University home pages etc.). Invite units/departments/programs whose work is not currently represented to integrate their offerings and resources on this central portal.

Even if a central portal is created, it will not suffice to bring students to services. Several such mini-portals described above are underused. One key strategy is to identify key opinion and practice leaders
in each school and college. These opinion/practice leaders should be equipped to serve as “trusted messengers” within schools/colleges/units/departments by engaging Student Life’s existing support and training resources, which provide information and tools necessary to effectively connect students with resources that foster well-being. Another strategy is to develop an online module to help students gain familiarity with campus wellness resources and how to access them. Multiple tools for delivering key services and supports will be important to reach all students. These multiple technological tools include: synchronous meetings via video and/or audio; asynchronous communication via texting, email, and social media; telephone; and even snail mail, if needed.

**Recommendation 7:** High quality hybrid/hyflex curriculum support services should be an integral method of delivering curriculum support services for the academic year 2020-2021 and beyond.

Curricular support, extra-curricular and co-curricular, and engaged learning activities should build on their experiences from Winter 2020 to develop even higher quality technology based services. The growing body of knowledge about best practices in digital student and curriculum support services can be a resource. We can also raise our collective impact by providing more visibility of the best practices already underway on campus. This can be accomplished through sharing information and at the **Summer Conversation Circles** (Recommendation 2 above).

Another resource for best practices is the U of M School of Nursing’s [Best Practices Report for a Virtual School](#). This document was prepared for the School of Nursing’s online master’s degree program, but is applicable in principle to almost any academic unit at U of M. It suggests tools and approaches to several student curriculum support services and is based on an analysis of peer institutions with virtual or online academic programs. This best practices report covers several areas including student career services, counseling and psychological services, academic advisement, community and news services, student concern reporting, regulatory issues such as export controls, critical incidents, chat and virtual meeting tools, and inclusive services for students with varying needs and abilities.

**Recommendation 8:** Strong technical support is essential for student and curriculum support units and activities.

Strong tech support is essential to the success of the hybrid/hyflex semester. Strategies for ensuring strong tech support are listed below:

- Baseline technology needs should be identified for each unit as part of their plan. Standards should be set by the program/department/school.
- Loaner technology should be available as needed to ensure equitable access to online materials.
- Remote tech support is essential as well as making sure that staff know how to access this support.
Scenario 2 - Fully Remote Instruction or Operation

General Assumptions

The committee’s working assumptions for fully remote instruction or operation for the 2020-21 academic year include the assumptions from Scenario 1 above, except that assumptions will include that all programs and services are to operate fully remotely only.

Guiding Principles

The committee’s guiding principles remain the same as above, except that all services will be virtual.

An additional guiding principle is that at least some virtual services should be synchronous. While synchronous virtual contact is not identical with person-to-person contact, experience from the winter term, 2020 showed that students appreciated synchronous contact with faculty.

Recommendations

In a fully remote fall, 2020 term all the recommendations made for the Hybrid/Hyflex semester, with the exception of in-person services and activities, remain the same. I

In a fully remote fall term, active and assertive outreach to engage all students will be even more important. It will be important to use telephone and mail outreach, especially for students who have limited internet service or who do not respond to email and other electronic outreach methods.

Telephone assistance for students having difficulty with remote services will be essential and will need to be responsive.
Report of the Committee on Spaces that Support Academic Mission and Collections

Charge

Develop plans and guidelines to manage common spaces and collections in remote and restricted in-person scenarios with the goals of developing:

1. Recommendations regarding creative and safe management of spaces and access to collections that support academic mission;
2. Principles of use consistent with public health guidance, including access to materials, and function specific spaces, and flexibility based on changing guidance, and transparency in how policies are created and shared.

Committee Membership

**Kati Bauer**, Interim Chief Operating Officer, Duderstadt Center and Senior Counselor to the Vice Provost for Academic Innovation

**Donna Hayward**, Associate Dean of Libraries, University Library

**Kambiz Khalili**, Associate Vice President for Student Life

**Earl Lewis**, Thomas C. Holt Distinguished University Professor of History, Afroamerican and African Studies and Public Policy; Director, Center for Social Solutions; Professor of History, Professor of Afroamerican and African Studies, LSA; Professor of Public Policy, Ford School of Public Policy

**Terry McDonald**, Arthur F. Thurnau Professor; Professor of History, LSA; Director, Bentley Historical Library

**Frances Mueller**, Associate Vice Provost for Academic and Budgetary Affairs, Office of the Provost and EVPAA

**Christanne Myers**, Associate Professor of Theatre and Drama, School of Music, Theatre & Dance

**Tina Olsen**, Director and Curator, Museum of Art

**James Hilton** (Chair), Dean of Libraries, University Library; Arthur F. Thurnau Professor; Vice Provost for Academic Innovation, Office of the Provost and EVPAA; Professor of Information, School of Information
Executive Summary

The Committee on Spaces that Support Academic Mission and Collections was charged with developing plans and guidelines to manage common spaces and collections in remote and restricted in-person scenarios with the goals of developing:

- Recommendations regarding creative and safe management of spaces and access to collections that support academic mission; and
- Principles of use consistent with public health guidance, including access to materials, etc.

The committee developed taxonomies of spaces and activities to guide planning, a set of guiding principles, an outline of steps to progress through on the path to a staged reentry, and a two-phased set of recommendations.

Phase One: Four-eight weeks beginning as soon as feasible

- Increase and routinize all virtual affordances for roles of cultural collections and disciplines – e.g. scanning, streaming and revisit and address a variety of policy questions and associated implementation considerations that are implicated in digital delivery of works.
- Develop coordinated stages / timelines across four activities that will enable the phased admission of patrons of all types. These activities include:
  - Budget/expenses associated with responding to the crisis
  - Reentry planning
  - Incorporating safe distance guidelines that apply beyond classrooms and labs
  - Connecting with the other planning groups looking at restricted in-person classroom scenarios to explore both controlled use/access to shared academic spaces and collections and remote alternatives to physical access.
- Ask the Response and Recovery Team (Mike Daniel of CAI chairing) to convene the managers of audio/video studios to develop public health informed operating guidelines for both production (i.e., audio/video staff only), collaborative recording scenarios (i.e., staff & faculty working with talent and students) and University Productions.

Phase Two: “Opening” in fall term and continuing for the foreseeable future

- Reopen in a staged manner that prioritizes health/safety concerns balanced by mission criticality. The net goal of the many recommendations for this phase is to approximate pre-COVID access with radically reduced physical presence through a combination of controlled access and increased virtual capabilities. Take this opportunity to re-examine methods of accessing course materials and textbooks
Overview

In his important 2013 book, *Higher Education in the Digital Age*, the late William G. Bowen reminded academic leaders to "resist efforts to overdo online instruction, important as it can be," and instead to remember the "great value of 'minds rubbing against minds.'" By the latter he meant the great advantage of residential institutions is that "genuine learning occurs more or less continually, and as often, or more often, out of the classroom as in it." The solution, he argued, was a portfolio approach providing a carefully calibrated mix of instructional styles.

At this moment it is easy to think that he was writing about THAT digital age and not this one, and even before now there have been those colleagues here who have wondered if such things as the performing arts, visual arts, humanities, and cultural collections were simply luxuries.

It is precisely at this moment that such thinking would be a colossal mistake. Both during and after the current crisis the difference between "online" education and high quality, digitally enabled, higher education, will rest on the ability of institutions to use digital affordances both to ensure that "minds rub against minds" and that their vast cultural resources are fully mobilized in this effort.

It is the role of our committee to think about the fall term role of Spaces that Support Academic Mission and Collections and this is it: The powerful array of cultural practices, collections, and disciplines at the University of Michigan provide crucial spaces for the meeting of minds but more than that convey an essential truth of liberal education: that deep insight emerges from the possibility of "going to the source," the document, the book, the work of art, the performance, the artifacts of architecture and the work of curated spaces. This possibility, so richly available on this campus, is not simply a "cultural experience." Rather in "going to the source" we teach and learn the practices and skills of research and interpretation, artistic production and critique, that is always iterative, sometimes temporary, but frequently a profound experience of using a cultural artifact to build a truthful account or imagine a new account of the past and future altogether.

And, indeed, at this moment and thereafter this practice of "going to the source" to produce a truthful account is and will be even more important than in normal times. For as Michael Patrick Lynch has pointed out in his 2017 book *The Internet of Us*, "the enemy of the truth in the digital age is what he refers to as "Google knowing," the rapid ability to confirm a "fact" or "view" without taking the responsibility for its truth value. The taught difference between the search for confirming information rather than the process of truthful construction is another fundamental difference between existing legacy models of "online" learning, which tend to be more passive and prescriptive, and the digitally enabled pursuit of high quality higher education that we envision under any future scenario. Moreover, this experience makes a fundamental contribution to
Democratic society. For as Lynch argues, teaching the way to construct a truthful account from its "primary" sources – variously defined – is the way to teach the skills of critical thinking and civil exchange so necessary for civil society.

The University’s enormous historical investment in a wide array of cultural collections, practices, and disciplines is ready to pay large dividends in the all-important fall term – and thereafter.

**Guiding Principles**

- Always enable fulfillment of academic mission in ways that are safe and informed by the very best public health guidance. For our spaces, these include:
  - The feasibility of adjusting various spaces to perform in a public health informed environment across a diverse array of users.
  - The ability to provide a safe working environment for faculty and staff.
  - The ability to provide safe access to collections.
  - The ability to continue to ensure our spaces/collections are accessible to a broad and diverse set of users.
  - The feasibility of assuming the financial impact of the state of preparedness necessary for reopening the campus in a COVID-19 informed environment.
  - The reasonable level of expectations from the students and visitors to the facilities to support and adhere to a public health informed academic environment.

- Look for every opportunity to use this crisis to improve our regular practices—embrace transformation.

- Through a continual employment of cutting-edge advice from health and public health experts, we commit to educate and protect while working and collaborating.

- We remain committed to the core principles of diversity, equity and inclusion, even as we make real time adjustments in light of COVID-19-produced issues and opportunities.

- Look for solutions that solve multiple challenges over those that solve a single challenge (e.g., consolidate on a finite number of solutions that provide good enough performance before looking for customized solutions to boutique problems).
  - Take this opportunity to bridge silos and increase collaboration.
  - Commit to digital delivery of quality experiences everywhere—if access can be delivered digitally at an acceptably high level of quality, that should be the default under any near-term access scenario.
  - Prioritize “needs” over “desires” (e.g., some staff can only do their jobs in our buildings. They need to be there. Others would prefer to do their jobs in our buildings. They desire to be there, but don’t need to be there.)
  - Prioritize the need in the near term to fulfill our educational mission heading into
fall term. Laser-like focus on fall priorities with an eye toward long-term impacts.

- Keep in mind that our users have varying needs for physical access to our buildings. In descending order of priority for access they include: staff doing work onsite to enable a robust fall semester (e.g., scanning and digital capture of collections/performances); staff whose regular jobs require onsite access but whose regular work is currently on hold (e.g., conservation staff, shipping and receiving); faculty and graduate researchers/creators/performers needing physical access to collections, studios, galleries, etc. to perform their scholarship; undergraduate researchers/creators/performers needing physical access to collections, studios, galleries, etc. to perform their scholarship; undergraduates seeking study/collaboration space; and the general public.

- This remains a highly emergent situation and we need to react to changing scenarios in a nimble fashion.

**Working Assumptions (adapted from the report of the Coordinating Committee on Instructional Planning)**

- We will not be under a stay-at-home order through August 2020-May 2021.
- Testing, contact tracing, and PPE will be available and used according to public health guidelines.
- On-campus housing and transportation safety measures will be in place.
- Campus space restrictions, physical distancing guidelines, and regular cleaning measures will be developed in a coordinated fashion and monitored across campus.
- Access to buildings will be monitored by staff trained appropriately in terms of public safety and sensitivity--especially for our public facing buildings.
- Students and faculty members will be expected to participate in the culture of safety and respect, or “the new social compact.”

**A Phased Reentry Under Any Scenario**

In contrast to the rapid shutdown in March, reentry is likely to involve multiple stages and to look similar to the phased reentry planning that is happening as research ramps up. Our common academic spaces and collections exist in a variety of forms (e.g., libraries, museums, gardens, University Unions, performance halls, etc.) and are used differently by combinations of at least four groups: 1) staff who work in the buildings; 2) constituents who rely on physical access to our spaces and collections to conduct research, create exhibits, and produce a wide variety of performances; 3) members of the university community who use our spaces to study, congregate, and collaborate; and 4) members of the general public who visit our collections, exhibits and performances and often see our spaces as theirs, given the public nature of the university.

In the committee’s discussions, we identified a total of seven steps heading into the fall. These steps do not fall neatly into the “fully remote” vs. “Hybrid/Hyflex” dichotomy that the planning committees have been asked to use. Different kinds of users need different
kinds of access, especially to our function specific spaces and those uses don’t parse neatly between “fully remote” and “Hybrid/Hyflex.

Instead of using that dichotomy, we identified seven stages of access/reentry that exist on a continuum with “remote only” at one end and “Maximum physical access possible given public health/social distancing requirements” at the other end of the continuum.

As one moves through the continuum toward physical access, the goal is to get as close as possible to pre-COVID functionality through a combination of increased virtual access and controlled physical access.

**Seven Steps on the Increasing Physical Access Continuum**

- **Remote only** (The starting end of the continuum)
  - Open only to faculty and staff who must be in buildings to perform mission critical work in support of remote semester.
    - E.g., Scanning and non-public facing document delivery functions
    - E.g., Fixed instruments (carillon, organ)
  - Open to staff who cannot do their normal work remotely and closed to all others
    - E.g., Conservation and parts of technical services
  - Open to staff who cannot do their normal work remotely and limited public facing services that can be done with minimal time spent in building
    - E.g., “Curbside” circulation of books
  - Open to staff who cannot do their normal work remotely and scheduled “public” access for specific purposes
    - E.g., Researcher access to papyrology collection, faculty/student/staff access to performance production spaces for digital delivery, scheduled gallery visits to support and enhance student experience, staff helping record or live stream course sessions
  - Open to staff & faculty who cannot do their normal work remotely and select public facing common areas
    - E.g., Computer labs, maker spaces, galleries, and proctored study areas
Self-service facilities open to faculty/students that don’t require staff mediation
  ■ E.g., light lab and some audio/video studios

Staggered access
  ■ Given that we may struggle to achieve low density in our buildings if everyone who needs to work in them does so, we may need to alternate/stagger/expand access by days/shifts

Maximum physical access possible given public health/social distancing requirements (The destination end of the continuum)

A Taxonomy of Spaces

Our shared academic spaces and collections exist in a wide variety of configurations. Some of these spaces are implicated even at the fully remote end of the continuum while others come into play as we move toward greater physical access.

Remote only

  ● Transitory hallways spaces, stairwells, elevators, restrooms, gathering spaces
  ● “Labs/Studios” (audio, video, maker spaces, XR spaces) that include many pieces of shared equipment
  ● Performance spaces
  ● Galleries
  ● Places where physical collections are housed
  ● Project spaces (recording booth, personal production spaces)

Additional spaces that come into play with greater physical access

  ● Special collections that take various forms (costumes, scores, text, musical instruments) but have in common a space component as a means of providing gated physical access even in “normal times”
  ● Common public spaces and equipment (study tables, collaboration rooms, computer labs)
  ● Conference rooms/interview rooms/meeting spaces
  ● Convenient food service (distinct from dining halls)
  ● Object classrooms (spaces specifically designed to provide access to objects and collections)
  ● Public service points
Prayer rooms

A Taxonomy of Space-based Activities by Scenario

Similarly, the activities that happen in our spaces and collections take a variety of forms. Some of these activities are necessary and possible when access is fully remote while others come into play as we move toward greater physical access. Below, we describe the activities that can take place if we are limited to remote access only, and how those activities are expanded with greater physical access.

Remote only

- Scanning/digitizing
  - “Production digitization” relying on trained staff only working with material
  - Digital capture of exhibitions and virtual performance instruction relying on trained staff/performers working under controlled conditions

- Performing (music, dance, theater, etc.)
  - Involves faculty/staff performers, stagehands and production crews
  - Virtual audiences only

- Working with collection materials
  - Similar to scanning/digitization, the assumption is that only trained staff will work in the space and have physical access to the material. Over time, even in a remote only scenario, we would likely be able to phase in access to researchers on a scheduled basis
  - Given that many of the materials cannot be “sanitized” without damaging them, we will need quarantining guidelines for the materials used

- Exhibition creation/viewing
  - The assumption is that only trained staff will work in the space and have physical access to the material. Over time, even in a remote only scenario, we would likely be able to phase in access to researchers on a scheduled basis
  - Virtual galleries and exhibits only

- Engaging with the General Public
  - The committee’s assumption at this point is that under the remote scenario, engaging with the public will be limited to controlled access service points (like curbside pick-up), unless the state restrictions on libraries and museums are lifted and we are able to provide physical access safely in a public-health informed way.
Additional spaces that come into play with greater physical access

- Scanning/digitizing
  - Though “self-serve” scanning is normally supported in the libraries, it’s hard to imagine that being an efficient model under this scenario given the need to both control access and sanitize high touch surfaces between users.

- Performing (music, dance, theater, talks and programs, etc.)
  - Under this scenario, performers, stagehands and production crews will occupy shared space and will need distancing guidelines that are likely to vary as a function of density, duration, respiratory activity and the use of appropriate PPE.
  - With increased physical access, physically present audiences become a possibility. Like reentry more generally, the approach to audience reentry will need to take into consideration the spacing, staffing and house capacity of the venue as well as whether audiences beyond the university community are possible.

- Working with collection material
  - A key educational benefit of attending a research university is the ability to interact with physical collections otherwise not available. With increased physical access, we imagine scheduled, supervised access to various collections. Social distancing and sanitization guidelines will be needed for both extended visits (e.g., faculty and student researchers working on long term projects) and scheduled visits by classes.

- Exhibition creation/viewing
  - As with access to collection material, a key educational benefit of attending a research university is the ability to interact with physical collections/objects otherwise not available. With increased physical access, we imagine scheduled, supervised access to allow students/faculty to participate in exhibit creation and viewing. Social distancing and sanitization guidelines will be needed for both the creating and viewing phases.

- Studying in shared spaces
  - Many of our common spaces are used for studying/gathering/collaborating and are currently designed/furnished to encourage density. As we begin to permit physical access to these spaces, we will need to rethink/design them to encourage social distancing, limit access to much of our space that is currently wide open, and consider procedures that will enable contact tracing etc. For the fall semester, we think that scheduled/destination specific access will be possible. We do not believe unregulated access to our common spaces
will be possible until there is an effective treatment and/or vaccine for the virus.

● Engaging with the General Public
  ○ The committee wrestled with the fact that many of our units have a public facing mission and associated set of expectations. Indeed, one of the very real dangers for many of our units and the university more generally, is that the steps that need to be taken to address the crisis (e.g., restricted access, health screening, reduced capacity due to social distancing, etc.) will jeopardize our compact with the public in multiple ways. Restricting public access, for example, has direct implications for DEI, the public’s perception of the university, and town/gown relations.

In the end, we believe that answering this important question goes beyond our current charge and recommend that a small task force be charged with exploring the options and considerations that exist for engaging with the general public when access to our buildings and facilities is restricted due to public health concerns. For the purposes of this committee’s report, we have focused primarily on physical access by members of the university community. We have also assumed throughout the document that if a space is open to both campus and general audiences (i.e. a museum gallery) but must be restricted to accommodate social distancing, campus audiences would take priority.

● Making
  ○ We have a wide variety of facilities devoted to various forms of “making.” These include: maker spaces; fabrication facilities; video/audio recording studios; production shops (costume, lighting, paint, etc.); the performing arts technology lab; equipment loaner pools; and likely many others. With increased physical access, we imagine scheduled, supervised use of these facilities. Because many of the surfaces will likely be high touch, we will also need to develop site appropriate sanitation and distancing guidelines.

Recommendations

As noted above, we anticipate that reentry will need to occur in phases. Some of our spaces, collections, studios, and services provide direct support to researchers, artists, performers, and scholars on campus. As such, we recommend including them in the current effort to ramp up research.

Phase One: Four to eight weeks beginning as soon as feasible:

Open only to faculty and staff who must be in buildings to perform mission critical work in support of fall semester. (We would argue that much of our activity is research and those services and activities that support research, especially in the arts, humanities and
humanistic social sciences).

Staff work inside the buildings without other patrons or audiences to develop, refine, and adjust to social distancing requirements for work while at the same time ramping up services such as:

- Scanning and non-public facing document delivery functions.
- Virtual access to collections and performances – digital archives, video tours, streaming performances.
- Conservation and parts of technical services including all those services supporting the visual and performing arts.

**Key Goals of Phase One for Supporting Academic Mission:**

1. Increase and routinize all virtual affordances for roles of cultural collections and disciplines – e.g. scanning, streaming.

   - Determine whether there are commercial providers that could handle expected volume in time and at a favorable cost relative to internal provisioning. If so, begin the procurement process immediately. If not...
   - In consultation with existing service providers, Identify and order equipment
   - Identify locations and any modifications that will be needed
   - Identify human resources and training that will be needed to scale up scanning efforts
   - Increase and routinize streaming/virtual performance delivery
   - Increase capacity to digitally capture exhibitions and stream virtual performance (SMTD current streaming spaces/protocol: (music only plus 1 dance studio) [https://smtd.umich.edu/performances-events/live-streams/](https://smtd.umich.edu/performances-events/live-streams/)
   - Revisit and address a variety of policy questions and associated implementation considerations that are implicated in digital delivery of scanned works. These include copyright, privacy, accessibility, and access controls.

2. Develop SSAMC coordinated stages / timelines across four activities that will enable the phased admission of patrons of all types – faculty, staff, students, visitors, audiences.

   - Work collaboratively together and with the Provost as we face significant expenses in safely reopening/remote provisioning at the same time that we face cost containment measures
   - With guidance on safe handling of material in collections to inform both scanning practices and possible public access, develop approved re-entry practices and start socializing them with staff.
   - With guidance from the public health committee, expand safe distance guidelines to include spaces beyond "labs" and "classrooms."
   - Connect with the APG planning groups looking at restricted in-person classroom scenarios to explore both controlled use/access to shared academic spaces and collections and remote alternatives to physical access.
     - Ask the Response and Recovery Team (Mike Daniel of CAI...
chairing) to convene the managers of audio/video studios to develop public health informed operating guidelines for both production (i.e., audio/video staff only), collaborative recording scenarios (i.e., staff & faculty working with talent and students) and University Productions.

- Because access under any scenario is likely to be scheduled rather than spontaneous, look for common solutions to scheduling challenges.

Phase Two: “Opening” in fall term and continuing

By the beginning of fall term re-open to the “public” in a manner consistent with the seven steps of phased reentry.

During this phased reentry:

- Respond to most requests for materials, viewings, performances digitally—scanning, streaming, etc.
- Charge a small task force with exploring the options that exist for engaging with the general public under the hybrid/hyflex scenario
- Employ best local public health advice to permit other faculty, staff, students, and the “public” into cultural collections under special conditions
- Radically reduce density of patrons
- Reorganize all spaces that have encouraged density in the past
- Monitor and restrict entry – certainly by strict occupancy rules and census taking, possibly by appointment systems
- Continue major virtual access to all performances, exhibitions and collections
- Take this opportunity to re-examine methods of selecting/provisioning, and accessing course materials and textbooks

Key Goal of Phase Two:

The combination of controlled entry and increased virtual capability should approximate pre-COVID access, but with radically reduced physical presence.

Opportunities

While we spent most of our time focused on challenges and recommendations, the committee also sees a number of opportunities as we look beyond the current crisis. These include:

- Taking advantage of affordances from technology to improve education and increase access equity in what will almost certainly be a “hybrid” environment.
- Increasing partnership and collaboration with Facilities and Operations.
- Increasing partnership in better/more utilization of all classrooms and spaces within the University, regardless of the building affiliation with a school or college.
- Building infrastructure/capacity to support robust engagement with public beyond university community
- Bridging silos to create something new, build/find capacities, take advantage of shared resources, pilot different approaches to teaching, use of collections
- Services and streaming, better remote access for audiences
- Developing educational opportunities for staff and faculty to learn how to create and deliver exhibits electronically
- Reevaluating the University restrictions on web-based charge card processing. Best COVID-19 practices highly recommend using touchless credit card transactions in place of cash and physical credit card handling. UMMA is currently mandated to use phone line charge authorization—which doesn’t allow us to use the chip enabled technologies of touchless pay or phone app-based payment systems, i.e. Apple or Google Pay. These same restrictions on web-based processing prevent us from creating an online UMMA Shop presence because all of the affordable and efficient platforms for online stores use web-based payment processing.
- Expand the thinking about access, how do faculty integrate or use digital resources (about material culture, art, etc - how do we strengthen use of those)
- Create a dedicated arts video production and web team, perhaps within the Mcreative group, to elevate digital production capabilities across our units.
- Seek ambitious investment that could come from a foundation or donor focused in developing U-M's capacity to build compelling experiences online. See the Northwestern University Knight Lab for Journalism as a model. Such an investment would allow us to build easy to use, embeddable tools in our online spaces.
Appendix

Challenges Noted Along the Way

Much of our time as a committee was spent discussing the types of spaces, collections, and activities that happen in our diverse units—understanding where there was convergence and where there was divergence. As part of those discussions, we identified a host of challenges. Our recommendations are intended to address many of them, but some lie beyond our control and likely beyond anyone’s control.

- Establishing a culture/code of conduct that supports best public health behavior
- Scaling up digitization on almost every front
- Current lack and market unavailability of equipment for remote operations—adequate audio and visual equipment to improve presentations, etc.
- Network connectivity for some students/faculty/staff
- Bandwidth (both on campus fiber between studios and externally [ITS recommends 15mps down and 5 mps up])
- Current budget situation
- Knowing when/how re-entry plans are approved and communicating that with assurance to staff. How will we determine whether local implementation plans meet the best public health guidance?
- How we handle shared materials such as scores, scripts, costumes, props, instruments, books, etc.
- Need coordinated educational plan for dos and don’ts of an in-residence campus—e.g.:
  - Staff instructional support and hardware to "go virtual" (vs "go remote")
  - Many of our spaces are designed to foster density (e.g., collaboration spaces, study tables, performance venues). Density is now a public health enemy.
  - Are there special cleaning and sanitizing procedures/routines for reading rooms and other physical spaces?
  - Are the guidelines and procedures for using/sanitizing that are in place for labs appropriate for video/audio studios?
  - Clear signage in each room about new densities
    - How do we manage situations in which students do not respect 36 sf social distancing?
    - How do we determine the social distancing needs as a function of: density, activity, and duration? (E.g., if classroom density is set at 36 sf on the assumption that students will be in the class for 1-1.5 hours, and if lab density is set at 144 sf on the assumption that researchers may be working 12 hour shifts, what is the density on...stage where dancers have brief close interactions with high respiration; in common academic spaces where duration is hard to regulate; in choral practice; etc.)
- Professional development around delivering different content formats (e.g., physical exhibitions versus digital exhibitions) and around using digital resources
within online teaching environments

- There’s a window of tolerance as we grapple with these challenges. Public perception is in flux and won’t likely come back to the pre-COVID defaults.
- How do we address the flawed assumption by many that cultural collections, performance, and liberal arts more generally, are luxuries (desires versus needs) rather than essential?
- Mental health issues associated with crisis and social distancing.
- As we prioritize access and service to our University community, we risk losing our connection to the broader public and that part of our mission.
- Long-term narrative about the public good as destination--how does that shift under the two scenarios and what are the intended and unintended impacts on funders, patrons, and students.
- Social Compacting - If students engage in taking more risks by attending social gatherings and become carriers, all efforts will be fruitless. How do we encourage students to care for one another and understand their social responsibility?
- Will there be any kind of cleaning and sanitizing of every classroom in between classes? If so, how can we maintain prompt start of classes?
- How will we address accessibility concerns for physically challenged students?
- There is, and there will even be more stress on the supply chain for just about anything related to COVID-19. Purchasing integration by various schools will increase buying power and eliminate duplications of orders.
- Public understanding of higher education is going to shift.
- There is open skepticism of the arts during this time. How do we address that somewhere?
- Deal with mental health for students who feel marginalized, creative individuals whose modes of expression have been impacted.
- May have a public relations concern if public spaces (e.g. bathrooms) are closed to the public while open to faculty/staff/students (ID access)
- Public spaces, i.e. Unions, are a primary space for underrepresented students
- Not allowing access (to Trotter, etc) may be perceived as unfair to certain groups (race, gender, etc.).
- Heavy/high-touch equipment that people are using copy machines, print binding machines, hand tools, power tools, and maker spaces
- Tours (Public, school, exhibitions), whether they happen or not
- Managing public expectations
- Messaging going on around faculty and students and the way staff feel (slighted) about that
- In a semi distanced relationship, access and status e.g., a newly minted PhD needing continued access to the library

Questions out of Scope (formerly Parking Lot)

- Who is thinking about co-curricular spaces, e.g. Trotter Multi-cultural Center?
● Those with large general public constituents should think through how public spaces are used together. Tina Olsen will talk with Mike Solomon to continue thinking about this.
● In-person recruitment of students.
● Our students doing student teaching in K-12 schools
● OSHA - lifelong learning with the Medical School, they sponsor guests and speakers, are they guided by University policy
● Transportation to and from work - DEI issue
  ○ many of those who will return first may be accustomed to taking public transportation
  ○ any chance we can ask the University to change blue lots to yellow lots temporarily, or keep them free/open like they were?