

UConn
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Future of Learning Committee
Final Report - June 2021

Future of Learning Committee Final Report

June 2021

CHAIRS

Jeffrey Shoulson, *Senior Vice Provost for Academic Affairs*

Daniel D. Burkey, *Associate Dean for Undergraduate Education and Diversity, School of Engineering*

EXECUTIVE SUMMARY

The Future of Learning Committee (FoL) was convened in the Spring 2021 semester to engage stakeholders from across the University on lessons learned during the COVID-19 pandemic, specifically with regards to how the pandemic impacted the university's educational mission. The committee included representatives from faculty, administrators, support staff, and students, both at Storrs and the Regional Campuses, and was composed of 45 members, including the chairs. Asked to reflect on the widespread changes to education that the pandemic necessitated, the committee was charged to identify opportunities and lessons learned for the future as UConn returns to more traditional and in-person modes of instruction.

To begin this reflection process and focus the discussion, the chairs developed a series of broad topics for consideration:

- Developing guidance for determining which courses could or should be offered online.
- Assuring that our educational goals are enhanced by these decisions.
- Using a more expanded approach to online education to broaden and deepen opportunities for all students.
- Enhancing the experiences of our regional students through increased online course offerings.
- Identifying efficiencies and financial savings without sacrificing the quality of experience.
- Integrating new advances and expansions in the online space with the Life Transformative Education initiative currently in development.
- Exploring implications for Global education.
- Exploring implications for UConn's Early College Experience (ECE).
- Leveraging such efforts for revenue generating opportunities and how this revenue should be shared.
- Incorporating such efforts as part of a broader marketing strategy for expanding UConn's "brand" nationally and internationally.
- Identifying technological infrastructure improvements that would further support these efforts.

These topics were included in an online survey where committee members were asked to rank their top 2-3 priorities for discussion and given the opportunity to add their own topics of interest. The results of the survey were analyzed by the chairs for the highest priorities as well as emergent themes, and the larger committee was organized into five working groups that integrated many of these themes.

- **“Big Picture” Guidance:** examined large, potentially university-wide changes or best practices that were implemented during COVID and could be leveraged to provide enhanced educational experiences and opportunities moving forward.
- **Expanding Online Academic Activities:** looked at how different units responded to the modality shift to predominately online education and how that newly developed expertise by faculty and departments could be leveraged to expand educational opportunities more broadly, including to Regional Campuses, Education Abroad, Early College Experience, and engaging alumni.
- **Enabling Cross-Disciplinary Team and Co-Teaching:** investigated ways to promote collaborative instructional efforts and reduce barriers to innovative co-teaching and team teaching, often combining expertise across multiple disciplines. The COVID online course and the Anti-Racism course were both cited as examples.
- **Revising and Refining Evaluations and Assessments:** considered novel ways of assessing students, given that the pandemic made many traditional forms of assessment (e.g. exams, in-person laboratories) impossible. This group also examined best practices for faculty assessment and the changing needs of Student Evaluations of Teaching (SETs) given significant changes to many course modalities.
- **Technology Needs:** looked into where the university performed well and where it needed additional support with respect to the educational technology supporting students and faculty during the transition to online learning. This included a dual focus on both training and infrastructure, as well as considered elements of equity and access.

The full committee met several times in February 2021 to outline the process and provide instructions to the subcommittees, at which point the subcommittees were free to work on their own schedules during March and early April 2021. During the same time period, Shoulson and Burkey met separately with leadership from the Life Transformative Education (LTE) committee, Jennifer Lease Butts and Tom Scheinfeldt, to discuss the intersections of the Future of Learning Committee with the ongoing work of the various LTE committees.

The FoL subcommittees were asked to consider their specific topics as well as provide recommendations for action in a tiered structure: (1) activities or changes that could be implemented in the short term with little to no additional support, either financial or human resources; (2) activities or changes what could be implemented on a short time horizon (e.g. 6-12 months) but may require additional support to realize; and (3) activities or changes that may be significantly different from current practices and would require a longer time horizon (1+ years), significant new or reallocation of resources, or both. In most cases, the subcommittees also attempted to identify key stakeholders and responsible parties that would be needed to realize their recommendations.

The entire FoL committee reconvened virtually twice before the end of the 2020/2021 academic year. At the April 21 meeting, representatives from each subcommittee reported out their major discussion points and recommendations to the entire group. At the May 18 meeting, there was an opportunity for any final discussion, and the subcommittees were reminded to finalize their written reports and thanked for their

service. At these later meetings it was heartening to discover that there were numerous overlapping recommendations emerging from the subcommittees, suggesting a good deal of consistency in both the questions that were being asked and the proposals that were being developed.

Appended to this summary are the five subcommittee reports, as well as the final membership list for each of the subcommittees.

Future of Learning: “Big Picture Guidance” Subcommittee

MEMBERS

Pamela Bedore

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EXECUTIVE SUMMARY

Our discussions involved three primary themes (1) course modalities that more tightly align to the underlying instructional pattern, (2) the need to better understand student, staff, and faculty preferences for course modalities, and (3) identification of critical factors to inform teaching policy and practice. Further, our discussions were grounded in a shared belief that in-person instruction has been, and should continue to be, the *primary* method of undergraduate instruction at UConn. In-person instruction should be the default mode.

The subcommittee acknowledged that there may be established and emerging rationale for courses to be taught differently than in-person, rationale that includes building on lessons learned during the Covid-19 pandemic. We believe alternatives to in-person instruction should be utilized, but only when justified by context and circumstance, approved by department heads and Deans, and supported by established best-practice guidelines that outline course design and faculty training and support needs. Faculty convenience and faculty preference *alone* should not be considered adequate justification.

The committee acknowledged that no instructional modality is, in and of itself, superior to any other in terms of facilitating quality teaching and learning outcomes. Some courses can be modified and redesigned to be effectively taught across all modalities, others cannot. The committee worked hard to focus on a post-Covid-19 environment (i.e. beginning with Spring-2022). The one exception is our recommendation to adopt new course modalities that more adequately depict the underlying nature and features of course instruction. We recommend that the new course modality structure be adopted immediately with faculty encouraged to modify their existing Fall-2021 course modality as appropriate. We present the newly proposed course modalities first, followed by a series of recommendations.

Proposed Spring 2022 Modalities

In Person (P) - All instruction occurs on specific days/times and in a specific physical location. Instruction is not available remotely.

Hybrid (H) – A minimum of 50% of instruction occurs on specific days/times and in a specific physical location. The remainder of instruction is delivered remotely, either synchronously or asynchronously. All in-person instruction is not available remotely.

Hybrid Limited (HL) - Some instruction, but less than 50%, occurs on specific days/times and in a specific physical location. The remainder of instruction is delivered remotely, either synchronously or asynchronously.

Online Synchronous (OS) - All instruction is delivered remotely and regular class meetings are scheduled on specific dates/times.

Online Asynchronous (OA) - All instruction is delivered remotely and no class meetings (including exams) are scheduled at a specified day/time.

Online Blended (OB) - All instruction is delivered remotely and some, but not all, regular class meetings are scheduled on specific dates/times. The remaining class time consists of fully asynchronous learning activities.

By Arrangement (AR) – All instruction is delivered at times and locations determined by mutual agreement between the instructor and the student(s). This mode is appropriate for clinical placements, field placements, independent studies, internships and research hours.

Service Learning (SL)** - These classes are designed with significant service-learning content. Instruction is delivered as appropriate to the subject matter and educational goals of the class.

REMOVED

- **Split (SP)**
- **Distance Learning (DL)**

**** Service Learning will be phased out as a mode of instruction once the capability exists for students and faculty to denote these classes by other means.**

Recommendations

- (1) *Scholastic Standards and CETL should develop and disseminate a set of minimum standards for all courses that include some remote instruction* (e.g. students must be able both to see and hear the instructor and view the instruction materials in a synchronous remote class (OS), all students must have an equal opportunity to participate in classroom discussions, and equal access to office hours, etc.).
- (2) *Academic Departments are encouraged to develop specific policies that outline the conditions under which alternatives to in-person modalities will be considered*, and outline the department approval process for doing so for all instructional terms, fall, winter, spring, and summer. All policies would require Dean level approval to help ensure equity and consistency. Consideration should be given to using existing department/school courses and curriculum processes.

- (3) ***CETL should develop faculty professional development and training programs that outline research informed best practices in teaching and learning for all modalities***, including in-person instruction. These training programs should be patterned after existing courses (e.g. the week long exploring online learning course) and standards (e.g. Quality Matters).
- (4) ***The Faculty Standards Committee should develop, and the University Senate consider adopting, modified Student Evaluations of Teaching (SETs) that are modality specific***. The Office of Institutional Research and Effectiveness (OIRE) and the Registrar's office should develop a coordinated system to ensure that the correct form of SET is aligned with indicated course modality.
- (5) ***The Provost's office should be responsible for securing a range of remote proctoring solutions and establish university wide authentication policies/practices that govern the verification of student identity in remote modalities***. Academic departments should be responsible for deciding which remote proctoring solutions are acceptable for remote department courses and communicating this to faculty. Faculty are responsible for clearly communicating to students through the syllabus, and explicitly on the first day of class, the method of remote proctoring and the method(s) of student authentication to be used in the course.
- (6) ***CETL should partner with University Advising, the Academic Achievement Center, and other key stakeholders to help ensure there is broad understanding of the pros and cons of different modalities***, and consider developing student-facing communications that can help students determine their level of 'fit' with different instructional modalities.
- (7) ***The university should regularly identify visible and available faculty leaders willing to serve as modality exemplars and modality peer mentors for other faculty***. This may take the form of faculty learning communities, CETL supported workshops, or one on one mentoring.
- (8) Prior to Covid-19 all HuskyCT course sites were created on a 'faculty opt-in' method. Faculty had to request that a course shell be created. During Covid-19 all faculty were provided a HuskyCT course shell. ***We recommend that in the future, the university continue with this practice of providing all courses with a HuskyCT course shell***.
- (9) ***The university should establish a funded pilot program competition to encourage innovative course redesign proposals from academic departments that take advantage of new modalities***. Strong proposals would clearly illustrate how the redesigned course (a) would facilitate achievement of course learning outcomes, (b) improve access, inclusion, and increased flexibility for students, (c) improve utilization of faculty resources and/or create synergies (e.g. between regional campuses and Storrs).
- (10) ***The university should prioritize the creation and dissemination of a 'brief' survey to UConn faculty and students to understand better their preferences (and underlying rationale) for different modalities, distinct from pandemic reactive preferences***. For example, extant research seems to suggest that the average student would prefer ~20% of their classes to be some form of remote learning with underlying rationale of flexibility and variety. A number of sub-committees indicated a desire to 'survey' and engaging expertise (e.g. Neag RMME group) to help cull through existing surveys (e.g. SERU) and to assist in survey design would be worthwhile.

Future of Learning: Expanding Online Academic Activities Subcommittee

MEMBERS

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EXECUTIVE SUMMARY

The EOAA subcommittee focused not just on expanding, but also enhancing the online aspects of UConn’s educational mission. Discussions were wide-ranging, as we embraced the natural tension of opportunities and risks that present themselves with adjusting practices across a large, diverse institution. We determined that our recommendations were best divided into short- and long-term action items. We are optimistic that online education will be a strength for the institution, provided proper care and foresight is used to balance existing innovations born out of necessity with the need for structure and long-term planning. A recurrent theme of our discussions, reflecting a variety of different concerns, was the importance of university leadership in identifying and defining how online courses and remote learning support the university’s Strategic Plan. This top-down work should pave the way for administration to have honest conversations and compare notes with faculty, staff, and students at the core of grassroots, bottom-up efforts to improve or expand online education. There are fascinating discussions to be had in the space where top-down and bottom-up efforts align, and even more important discussions to be had where those two efforts do not align; both are necessary to build a successful and sustainable online presence that suits the university into the future.

SHORT-TERM ACTIONS

In the wake of COVID 19 and UConn’s rapid pivot to online instruction, we find ourselves with an “unringing the bell” problem: Many practices and conventions developed during COVID out of necessity must be carefully revisited if we are to optimize our online academics activities to pave the way for future growth. The university must find ways to improve upon certain current practices and create (or emphasize) structure in areas where it may be lacking, while also embracing the opportunities and innovations this complicated year has created. We are also keenly aware of the unique public image of online learning in the wake of COVID. Students, parents, faculty, administrators, and staff are understandably tired and frustrated with certain aspects of online learning at this moment, and often for reasons quite removed from the quality of UConn’s online offerings. Bearing this in mind, we believe that

in the short term the university ought to concentrate its efforts on improving Structures and Guidelines to address problems that arose over the past year. At the same time, gestures toward Embracing Online Education with our constituents should be performed with sensitivity to current attitudes.

Improving Structures and Guidelines

The University has worked hard to offer guidance in many areas related to online education, but the coming months are the time to shore up these structures better to clarify institutional regulations, expectations of faculty and students, and best practices for the future. Areas in need of more structure—or where the institution must place greater emphasis on existing structures—include:

- **Faculty Expectations:**
 - Quality standards for course design (e.g. *Quality Matters*,) especially with asynchronous courses.
 - Guidance for course policies on student participation (especially policies relating to camera use), exams, handling student illness/absence, and time zone differences for geographically-dispersed students.
 - Instructor availability to students.
 - Workload recognition for designing and maintaining online courses.
- **Student Expectations:**
 - Specification of technology requirements for voluntary enrollment in online courses and ongoing review of these requirements.
 - Conventions for participation in online courses, including camera/mic usage and time spent engaging course content.
 - Advising that matches student learning styles to appropriate modalities.
 - “Introduction to Online Learning at UConn” or equivalent course.
- **Equity and Access:**
 - Impacts of online learning on regional campuses and their distinct characteristics/needs.
 - Balancing online teaching opportunities for interested, capable faculty within departments (and across campuses and ranks).
 - Impact of time-intensive online course development on non-permanent faculty.
 - Adjusting course caps or adding instructional support (e.g. Teaching Assistants) for online courses where necessary.
 - Reconciling eCampus course cap best-practices recommendations with university caps for in person courses that have been mandatorily “transitioned” online.
 - Exam administration guidance for instructors and students to resolve current issues (especially Respondus Lockdown Browser).
 - Addressing “dual-modality” faculty workload concerns for in-person courses when students are absent and learning remotely.
- **Administrative Expectations:**
 - Procedures for assessing the viability and success of online courses.
 - Well-signaled methods for resolving intradepartmental and interdepartmental (and intracampus/intercampus) conflicts and disputes related to online teaching.

- Well-drawn lines for guiding online learning into the future while preserving/encouraging faculty governance over educational content and processes.

Embracing Online Education

University leadership should leverage its clear, positive, and supportive communication channels with stakeholders to ensure an inclusive process for expanding online avenues in the future. Several specific actions can help accomplish this goal as the pandemic recedes:

- Communicate to colleges, schools, and departments that the Provost's office supports continued work to expand *and* enhance online course offerings. Communicate this message to faculty and identify instructors who are interested in online teaching.
- Ask deans, regional campus directors, and department heads to discuss how online courses might help them to meet their needs. These needs will differ across units and campuses and must be respected.
- Create feedback spaces (surveys, town halls, digital suggestion jars). Such spaces can help to identify what students and faculty want online courses for and how online learning can enhance the UConn educational experience. These spaces can also help faculty and administration identify whether problems with online learning are real or perceived. Leadership can then address problems or respond to perceptions. Feedback, in any case, cannot disappear into a hole; if feedback is solicited it must be recognized.
- Create a faculty working group to collaborate directly with CETL and create best practice model courses that can be highlighted by the University to inspire faculty. Additionally, use the pedagogical expertise in this group to address the challenges present in online teaching and learning, and make the group's approaches, tools, and tricks widely available to faculty and departments. Gifted teachers of online courses might be empowered and invited to contribute to future online academic activities.
- Expand faculty training options for online teaching to raise the standard of quality and address the most common issues impeding online teaching. Promote training options to faculty through channels other than institutional emails.
- Demonstrate commitment to innovative teaching online. Provide resources to encourage creative approaches to online pedagogy (CETL grants; Provost's and GEOC grants; faculty incentives). Spotlight success stories.

LONG-TERM ACTIONS

In the longer term, attention can shift to leveraging online education to enhance the institutional mission, extend the UConn brand, and improve program or unit flexibility. Our long-term efforts for expanding online academic activities thus focus on three themes: Quality, Visibility, and Efficiency.

Quality

- Work with the Faculty Senate to establish a curricular subcommittee that oversees online learning, akin to the role of GEOC. This committee should be charged with reviewing courses seeking UConn's "Online Seal of Approval" for adhering to best practice methods for online

teaching and learning (e.g. Quality Matters standards). The seal would denote for students a course that has undergone a process that will yield both quality and predictability in terms of basic formats. This curricular subcommittee may in time find it useful to subject online offerings to periodic technical reviews—similar to GEOC content area alignment reviews—to ensure technological and technical compatibility with evolving university technology standards, practices, and software.

- Identify point people in each academic unit (such as directors of undergraduate studies, star teachers, or faculty who have strong relationships with CETL) who can serve as resident online course experts within their units and advise instructors as they develop or maintain online courses. Using a “train the trainers” model, have these individuals work with CETL to learn how best to assist their fellow instructors, and then compensate this work fairly to ensure these unit-level trainers remain motivated.
- Establish a one-page, easy-to-use master list of University expectations and standards relating to 1. online course design quality, 2. meaningful interaction (between instructors and students; between students), 3. minimum and maximum workload for students, and 4. enrollment caps for various types of courses. Aside from the document’s referential value, the process of compiling this document will highlight tensions between the academic mission and institutional logistics - for example, large class sizes may meet certain goals for resource efficiency, but at the expense of meaningful Life Transformative Education. Reconciling these tensions will be important work.
- Going beyond HuskyCT, Teams, WebEx, etc. for interactive learning. Pair experts from UITS, CETL, UConn Online, and the aforementioned Online Courses Working Group to determine current issues that limit online teaching potential, decide how to maximize the user experience for teaching and learning online, and locate opportunities for new AI and adaptive technology and software to gauge learning outcomes and provide feedback to students. Discussions might begin with two central questions: 1. What do we want technology to do for online course experiences?, 2. How do we fall short of those goals now? Ultimately, the stronger the technological infrastructure and the better the user experience, the more beneficial the teaching and learning experience will be.
- Develop periodic (annual?) online competency training for students.
- Encourage the “exchange” of Storrs-based and regional-based students enrolling in online courses at other campuses to expand their curricular options and connect with a wider range of the university community. Position this initiative as a way to shrink the distance between campuses, tighten the university community, and maximize the reach of innovative scholarship and pedagogy across the university. Care must be taken not to use these exchanges as a crutch for regional campus students that could serve to deepen the inequalities between them and Storrs-based students.

Visibility

- As a public, land-grant university, UConn’s image in the eyes of the state’s residents and policymakers is of paramount concern. Expanding online academic activities may help in this area. Because online learning can reach beyond any of our campuses, it may and should be possible to make UConn’s online educational opportunities available to underserved and

historically ethnically and racially minoritized peoples. UConn might play a role in getting internet access into all Connecticut homes. Such initiatives dovetail with technology and internet expectations for students enrolled in online courses.

- Partner with faculty who are especially adept at online teaching to design “Flagship Courses” featuring dynamic presentations of content, engaging and relevant subject matter, and opportunities for both student engagement and asynchronous learning of content. These courses can deliver well-produced lecture content, intuitive LMS designs, and opportunities to build community through social media-like discussion spaces and/or synchronous discussion sections. Pair instructors with a team of Teaching Assistants who act as facilitators and can be individually assigned to help different types of students (Storrs, Regionals, FYE/Learning Communities, etc.) embrace the course material and engage with one another. These courses could be used to deliver “large lecture” content, and can serve as trial balloons to expand UConn offerings to different groups (Prospective International Students, Non-Degree Students, ECE Students.) Flagship courses could be featured in numerous ways through university communications as a way to expand the UConn brand.
- Bolstering Connecticut Programs: Consider offering online courses to high school students in the *Early College Experience* program, particularly in schools with fewer ECE offerings. Have these courses designed, developed, and taught by UConn faculty, but leverage high school teachers as on-the-ground facilitators working toward becoming ECE-certified so they can eventually teach online/in-person themselves. Similarly, expand the dual-enrollment arrangement with E.O. Smith high school to other local high schools, allowing them opportunities to enroll in online courses.
- Bolstering Global Programs: Extend UConn’s online offerings globally as gateway initiatives aimed at drawing international students. Both “Flagship Courses” mentioned above and notable 1-credit mega-courses could be used to expand online offerings and identify new markets for international student interest in the university. Using online courses to further collaborations between UConn faculty and faculty at other institutions can also help expand the University’s reach.

Efficiency

- Scheduling: In consultation with departments and especially advisors, identify specific courses to be offered online during Fall and Spring semesters with the goal of increasing student access to courses. Develop standard scheduling plans for these courses that make it easier for students to complete their education. This may be of particular relevance for streamlining enrollments across the Storrs and Regional campuses to reduce student scheduling frustrations for both regional and Storrs-based students. Note that while improving efficiency in enrollment will be a plus for the university, it will likely have a negative impact on revenue-generating Summer Programs that must be taken into account, or buffered by proactive campaigns to recruit more summer students.
- Regional Students: Account for students based at regional campuses when planning for online offerings. Streamline fee structures for online courses across campuses to prevent students from incurring additional costs by enrolling in “Storrs-based” online courses. Consider allocating graduate assistantships and other remote resources to support regional students. Work with

ACES, regional campus advisors, and programs with strong regional campus enrollments to develop a layered, incremental approach to online learning for regional students.

- **Program Impacts:** A number of campus programs should perform self-studies to begin preparing for future online learning developments. The workflow and needs for these programs differ, but each must locate areas to leverage online learning to fulfill their missions. For example: Service Learning can readily identify spaces where online work could yield community partnerships; Education Abroad may consider a model where students can concurrently enroll in UConn online courses. Support offices (SSS, CSD, etc.) will undoubtedly face new challenges, as well; we suggest letting all of these programs perform self-studies, using their expertise to propose ways to adapt for online opportunities.
- **Physical Space Impacts:** It will be important to assess the impact of online learning on physical campus spaces. While online learning reduces pressure on classroom space, it increases pressure on non-classroom campus space for students who must “do” online coursework on campus. This may be particularly salient at certain regional campuses, where the flexibility of online offerings may allow more students to complete 4-year degrees entirely at a given regional, presuming there exist adequate physical resources to support these students.
- **Staffing Impacts:** Serious analysis needs to occur regarding how online course offerings will impact staffing needs and decisions. These analyses must include academic departments. Considerations include roles of adjuncts, graduate teaching assistants, and in-residence faculty; allocation (and campus residency) of tenure-track lines; compensation and recognition (e.g. PTR, merit) for developing, coordinating, and maintaining online courses; enhanced need for instructional designers and technical support. Consider the development of a “fully online” option for faculty members who need geographical or scheduling flexibility. Of particular importance, in any event, will be recognizing the workload impact of online course development on faculty and determining eCampus’s size, function, and institutional remit in an era poised to witness widespread online course development projects.

Future of Learning: Enabling Cross-Disciplinary Team and Co-Teaching Subcommittee

MEMBERS

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EXECUTIVE SUMMARY

Our subcommittee was tasked with Enabling Co- and Collaborative Teaching, including

- Broad-based courses like Anti-racism, COVID, Environmental Justice
- How to credit work in teaching assignments and also in PTR evaluations
- Taking advantage of outside experts and guest speakers
- Global Ed implications
- Service Learning.

Co-Teaching and Collaborative Teaching is already being done around the university, both at small-scale inter- and intra-department levels and, in the past year, with the larger scale one-credit courses facilitated by CETL and involving faculty across colleges. However, these initiatives often founder in the longer term because of difficulties in assigning workload credit, and, especially in cross-departmental and cross-college initiatives, in working out the funding. Workload models around the university tend to focus on the “course” as a unit of measurement and thus co-teaching can look expensive or inefficient (2 or more faculty getting credit for ‘one’ course). We think that Hybrid models of teaching also have the potential to connect students and faculty across disciplines, colleges, and campuses. For example, two or more faculty members based on different campuses could design hybridized courses that bring critical access to curriculum needs at a regional campus that heretofore were infrequently or never available.

- 1) **Well-designed large scale collaborative teaching has the potential to be transformative for students and, properly planned and managed, can be cost-effective. Moving beyond the 1 credit model for large-scale interdisciplinary courses requires careful planning, institutional incentives, and buy-in from faculty and administrators so that the courses engage students and are sustainable (both in terms of costs and faculty labor).** The proposed new General Education curriculum places emphasis upon topics of enquiry and encourages interdisciplinary teaching; large-scale collaborative multidisciplinary classes could be developed as part of this new set of requirements. These might involve up to 3-4 instructors from multiple disciplines and could be

hybrid in format, with live lectures (taped for later access) and a combination of in-person and online discussion formats, including face-to-face and distance sections at the regionals.

Our recommendations for developing such courses include:

- Cost out these initiatives, distinguishing between short-term costs to set up and pilot and budget for longer-term offerings
- Provide start-ups grants for proposals for team-taught courses, including subsidies to pilot the course in its first two years. It will be crucial to get buy-in from department heads and deans before such grants are approved, BUT co-teaching should be bottom-up (incentivized and facilitated from the top, but planned and developed by faculty either to work with and learn from one another)
- Develop plans for sustainability and for managing workload from the start. The University of Michigan has developed a very useful [planning guide](#) for successful team-teaching collaboration.
- Develop more flexible workload models that would reward team-teaching, especially across colleges. Think about teaching load beyond the course model.
- Develop policies to ensure proper credit for tenure and promotion for co-teaching activity (part of SET+). Investigate publication possibilities for Scholarship of Teaching and Learning.

Implementation: Provost, Deans and faculty representatives, as this pertains to workload models and PTR policies; CETL

- 2) **We also discussed the possibility of developing entrepreneurial programs using a hybrid/online model.** One unexpected but welcome side-effect of the widespread shift to online teaching during the pandemic could be an improvement in the University's ability to develop collaborative, cross-unit entrepreneurial programs—whether certificates or degree programs. The bottom-line is that moving instruction online (whether synchronously and asynchronously) provides increased opportunities to create these sorts of programs. Online teaching allows one unit to provide instructional content more easily to other units, breaking down both disciplinary barriers (between seemingly disparate schools and departments) and physical distances (between Storrs and regional campuses). Examples already underway include the MS in Energy and Environmental Management and the Data Science initiative, and we also noted the relevance of the Professional Certificate in Corporate and Regulatory compliance and the Krenicki Arts and Engineering Institute.

Our recommendations for implementing this initiative include:

- **Develop “informational plumbing” and networking capacity to facilitate collaborative entrepreneurial programs across units.** This might include designating a central officer or team to serve as a clearinghouse/advocate for collaborative ideas, providing forums for exchange (e.g., a coordinating committee or committees) and also helping connect bottom-up actors with top-down resources and guidance. This could take the form of impetus and coordination (as with Data Science), channeling donor interest to areas of innovation and entrepreneurial opportunity (as

with Krenecki), or incentivizing bottom-up collaboration and entrepreneurship by individual professors and units (as with MEEM or PCCRC).

- **Add further capacity to CETL to support course- and program-design initiatives for collaborative entrepreneurial programs.**
- **Serve as a source of guidance on administrative issues that inevitably arise with such initiatives.** This could include, for example, suggesting various models of cross-unit governance, developing standards for the allocation of revenue streams, or providing guidance on crediting individual work on cross-unit programs toward unit-based teaching loads and/or tenure requirements.

The sub-committee stresses, however, that the University should not take a command-and-control approach in this area. Rather, it should focus on developing incentive structures to facilitate collaboration and entrepreneurship within and across units. Making room for bottom-up experimentation will remain essential, aided by clear top-down signals that these sorts of cross-unit entrepreneurial collaborations are both welcome and indeed crucial to the University going forward.

Implementation: Working group on entrepreneurial programs; faculty with interdisciplinary/entrepreneurial interests/experience, Center directors, Deans, CETL

- 3) **Global Education.** We also discussed implications for global education, an integrative **approach** to education that focuses on developing students' understanding of socio-cultural, political, economic, geographical, historical and current events faced in various parts of the world. Given the current context of the COVID-19 pandemic, the world has been forced to come together and reconcile innovative ways of learn globally. The Office of Global Affairs and the General Education Task Force are redefining global education in its traditional sense and offering virtual internships and online experiential learning where travel is experienced completely virtually.

Our recommendations for Global Education include:

- **Global Education should be embedded throughout university using virtual platforms and encouraging our partners around the world to co-design academic programs (dual majors, single majors and even double degrees) in which we “share” existing online courses using asynchronous and synchronous modalities** (current examples in Neag School and School of Engineering are being explored or already exist). This initiative provides revenue generation for the delivery and credit of UConn courses.
- Given the current redesign of the Office of Global Affairs to encourage more service and experiential based learning programs, **virtual internship-based programs can be developed so as to increase virtual practica and internships across the world, which would reduce travel costs and expand potential sites.** For example, school-based online internships, sports management based internships, business internships, nursing simulations, practicum site placements, etc.
- **Online professional development webinar series involving multiple U-21 institutions are possible** such as this academic year's partnership between University of Nottingham and UConn

on the series titled, “Is the University Colonial?: Critical Conversations on Its Past, Present & Future”.

- **Lastly, faculty exchanges are more possible and cost effective now than ever before**, where faculty can deliver a lecture across the globe or partner on grants with any U-21 or other institution without the additional cost of travel.

Implementation: Lead with Global Affairs, with input from Deans and faculty, and CETL for technological and design issues.

4) Course Delivery and Modalities. In order to optimize opportunities for cross-university and interdisciplinary instruction, course development and program creation, there must be shared priorities, and guidelines for the role of various modalities. The pandemic required a rapid pivot from primarily face-to-face to distance learning and hybrid teaching modalities. Faculty across the university quickly developed competencies in order to deliver content in different formats. With the planned return to predominately in person teaching in Fall 2021, schools and campuses are faced with determining the best mix of teaching formalities. **The subcommittee determined that having overall university policies regarding the balance of different formats is important, while leaving specifics to schools and colleges.** Currently, the Provost’s office has set 87% as a goal for in person classes in the coming semester.

Schools, colleges, and departments are encouraged to consider the following principles for determining an appropriate mix of teaching modalities for academic courses.

- **First, these units should determine, based on their field of study and related best pedagogical practices, which courses should be delivered in which format (in person, distance learning, hybrid).** This is best determined through the strategic planning process where the unit identifies its goals and priorities; this should drive the decisions about course delivery. Things to consider: Is there a desire or plan to deliver entire programs online? Is the preference to have a mix of delivery options?
- **Second, student needs and issues of access and equity should be considered. What are student preferences?** This may differ according to campus. For example, on **regional campuses, it will likely benefit these students to have increased online options, allowing them to take advantage of the broad array of courses offered at the Storrs campus.** Many first-generation students are working one or more jobs while attending school. How do online vs. in-person offerings affect them? Student demand may drive the mix. For example, students in the evening program at the law school may favor increased online options.
- **Finally, units can consider faculty preferences. It is strongly recommended that units develop equity guidelines for this.** Recognizing that individual faculty may prefer either of these modalities, units will need to determine the following: Can a faculty member teach all their courses online? How are course assignment/modalities rotated to ensure equity? If a faculty member is teaching primarily online, what is the expectation for having an in-person presence related to service and other university community activities? To what degree, if any, are life circumstances considered in assigning course modalities. For example: How to handle situations

where faculty members live at considerable distances from campus? Have caretaking responsibilities and children? How to respond to faculty who have concerns about air ventilation in their assigned buildings/classrooms and other residual covid factors?

Many schools and colleges have **required credit earning clinical placements**, internships, and field placements. Many of these programs also had to adapt to remote learning. **Post-pandemic, decisions about in-person or remote internships are likely determined by accreditation standards and policies of the host internship site.** Within that context, programs can also determine which internships, if any, can be better attended remotely. It is likely that these will be a small minority of programs. In most cases, in-person will be required, as in the case of clinical placements.

Schools, colleges, departments and faculty will continue to need resources from CETL to continue to improve course design and delivery in these alternative teaching modalities. These should include online webinars (available synchronously and asynchronously) and small group and individual design and delivery consultations.

We recommend that the Provost's office, in consultation with stakeholders (deans, faculty, department heads, union, senate, etc.), develop policies for health and safety, and course modality decision making and implementation that centers equity and access issues with the goal of delivering high quality instruction in the appropriate modalities. In addition, we need **guidelines for ensuring student academic integrity** in the context of online learning and exams and clarification of "time in class" for other than in-person classes. Within these sets of guidelines, schools, colleges, departments and units will be able to make local level decisions that prioritize teaching excellence, health and safety, student need, and faculty preference. Any guidelines must include expectations for faculty presence on campus, in addition to time spent in classrooms.

Implementation: Provost, faculty, school and college administrators, with Senate input

Future of Learning: Revising and Refining Evaluations and Assessments Subcommittee

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EXECUTIVE SUMMARY

Assumptions & Considerations: Quality is a hallmark of a UConn education. This must not change as a result of changes in course modes or assessment strategy. Providing feedback and accountability through meaningful formative and summative assessments is necessary for effective learning.

- Viewing students as active participants and partners within learning experiences: doing so can help improve our assessments and teaching evaluations, as well as enhance academic integrity
- No one size fits all: because UConn’s diverse programs have different requirements based on factors such as accreditation and level of instruction, any suggested modifications would likely vary by department, program, and/or school
- Assessment differs across instructional formats, in undergraduate and graduate education, and technology can support a variety of faculty-student interactions from standard tests, project work, observations, mentoring, and committee interactions.

Our subcommittee used the following nine interrelated questions to consider the future of learning for UConn students, seeking to distill emergent best practices from March 2020’s emergency pivot to remote learning as a response to the COVID-19 virus.

1. What student learning outcomes can/should be assessed?
2. How can academic integrity best be ensured/maintained?
3. What lessons relating to student engagement, peer collaboration and self-regulation have been learned from remote learning?
4. How have teaching methods evolved to address remote/distance/hybrid teaching?
5. How might teaching culture change to accommodate the nature/demands of online instruction?
6. How have remote learning environments affected how faculty address issues of attendance and absence?
7. How has remote learning affected faculty’s time management and work/life management?

8. How might differences across general education programs and professional schools affect the scope, sequence, and pacing for various university goals?
9. How feasible might be screening/placement testing for students?

Our discussions of these interrelated issues led to the three sets of recommendations below, (1) those things that can be done by faculty, (2) those that can be done by departments and colleges, and (3) those that can be done by the University.

Recommendations:

1. Things Faculty Can Do:

- A. Focus on mastery-based outcomes (e.g., specification-based grading)
- B. In the spirit of [Universal Designs for Learning](#), multiple forms of assessment should be used within each course, with the potential for individual online debriefs about assignments
- C. In syllabi, emphasize student learning outcomes (e.g., communication, critical thinking, research skills, self-regulation, social skills, ethics) over content-coverage objectives
- D. Improve course/syllabus design by aligning course content with assignments and assessments (i.e., backward design starting from student learning outcomes)
- E. Offer optional resources for multiple assessment/evaluation within a class but also per class size/pedagogical approach; common rubrics (e.g., groupwork assessment)
- F. Increase focus on engagement (active learning) as a goal. This includes using means such as PowerPoints to *provoke* discussion rather than shutting it down via an excessive note-taking burden.
- G. For written work, increase oral commentary rather than written commentary: this can reduce “red ink anxiety” and facilitates the infusion of praise into what can be a *discussion* (rather than a one-way written lecture) about a student’s work.
- H. Specifically discuss student self-study skills, with emphasis of self-directed, self-regulated learning
- I. Enable peer collaboration, emphasizing peer interactions and co-regulation

2. Things Departments and Colleges Can Do:

- A. Colleges, schools, and departments should consider forming committees that can help with the revision of syllabi and courses to focus on learning outcomes rather than content and consideration for skill-based grading systems (e.g., specifications grading) or alternative assessments/evaluations based on course size (seminar vs. large lecture) and/or course level (1000-level vs. 3000- level vs. Grad course). Universal design principals should be applied when creating assessments and evaluations.
- B. Develop guidance/requirements for online courses (i.e., complete online format) that promote regular faculty engagement with students with goal of insuring ongoing, consistent faculty-student contact.
- C. The workload for teaching online classes is equivalent to in-person teaching. Faculties should be instructed about minimum number of hours of interaction (especially for online and DL courses).

3. Things the University Can Do:

- A. Re-certify each University course within C&C, taking into account post-COVID practices
- B. Ensure software/technology accessibility for all students (especially CSD) at all campuses. For example, group use in a remote learning setting of some types of technology (e.g. stats software, project software) without needing a lab expands students' ability to learn necessary skills
- C. The University, rather than departments/schools/programs/etc., should be financially and otherwise responsible for resolving connectivity issues (e.g., lack of appropriate equipment to access necessary bandwidth) for those faculty teaching online.
- D. The University, rather than departments/schools/programs/etc., should be financially responsible for making available to all faculty new software that improves online offerings
- E. Faculty experiences/opinions, usage examples, and supporting data about online tools should be shared among faculty, perhaps with support from CETL.
- F. Revise the academic integrity portion of freshman orientation (First Year Programs) to include a wide array of situations in which online cheating and digital devices affect ethical behavior.
- G. Develop a multi-dimensional assessment of teaching that incorporates assessment of a variety of teaching modalities rather than relying on the current "one-size-fits-all" SETs.
- H. Understand and act on the following, all learned from the pandemic-era experience:
 - i. Snow day guidance needs development: Snow days would appear at first to be inapplicable to online courses but, for example, snow days affect distance-learning courses for those faculty and students who may have family caregiver issues during snow days now that many/most K-12 districts have pivoted to remote schooling on days that formerly would have been snow days.
 - ii. As more courses are taught online, old courses now become "new preps" in order to convert them to a remote-offering format.
 - iii. An increased opportunity to teach core workload courses online—even one class session a week—would allow for greater time for faculty productivity in all areas due to relief from time spent commuting/parking. This would also positively address work/life balance issues for many faculty members.
 - iv. An increased opportunity to teach core workload courses online should make scheduling easier, as relief from time spent commuting should create wider availability for faculty with family obligations.
 - v. Online courses are not easier to create or teach than are traditional courses, so norms re: faculty workload should take this into account.

Future of Learning: Technology Needs Supporting High Quality Online Instruction Subcommittee

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EXECUTIVE SUMMARY

The University of Connecticut's Future of Learning Subcommittee on Technology Needs to Support High Quality Online Instruction convened four times throughout March 2021 and twice during April 2021 to identify challenges within and provide suggestions that may improve upon the institution's short-, medium-, and long-term approaches to online and hybrid teaching and learning.

Emergent topics from the subcommittee's discussions included:

- I. Fostering Communities of Practice
- II. Instruction & Assessment Challenges in an Online Environment
- III. Laboratory Experiences in an Online Environment
- IV. Student Engagement in an Online Environment
- V. Integrity of Materials Developed at the University of Connecticut
- VI. Accessibility & Equity

These topics became the basis for constructing a series of specific low- and moderate-investment ideas that parallel the university's long-term goals and vision for institutional reform. Rather than limiting itself to specific software or hardware proposals, however, the subcommittee chose to apply a multidisciplinary, learning science-informed framework (e.g., [ISTE Standards](#), Koehler and Mishra's [2006] [TPACK Model](#), the [SAMR Model](#)) to better understand core structural concerns related to technology needs and then generate targeted recommendations aimed at:

- 1) Addressing pedagogical challenges associated with virtual teaching and learning;
- 2) Improving faculty attitudes toward, and adoption/implementation of, various instructional technologies and strategies for online education; and
- 3) Curating instructional design and technology resources that support the formation of robust communities of practice among instructors, mentors, and students.

Each recommendation is coded based on which decision-making body within the institution is responsible for its adoption, implementation, and oversight (i.e., **ADMIN**, **FACULTY**, **CETL**, **ITS**, and **ALL**) as well as its relative emphasis († implies highest importance/priority).

I. FOSTERING COMMUNITIES OF PRACTICE

The University of Connecticut has a deep and broad pool of talented faculty, many of whom have successfully navigated the transition to remote instruction and transition to remote/online learning. There are also many lived examples of ineffectual transition to an online instructional environment. Despite this wealth of knowledge in either direction, there is no existing opportunity for instructors to share what they know about teaching and learning. Major challenges include:

- **Centralized Information:** *How do we create, curate, and maintain a repository containing important notifications/resources capable of facilitating course design, management, etc.?*
- **Shared Vision & Sense of Success:** *How do we elevate faculty, staff, and instructors who have successfully navigated the online teaching and learning environment and connect them with others who want to improve or experiment with their own pedagogy?*
- **Interdisciplinarity:** *How do we connect individuals from disparate places within the university to nurture increasingly valuable interdisciplinary work (i.e., applying lessons from Greenhouse Studios as a framework for other intraorganization projects)?*

Recommendation(s):

- **'UConn-munity'/UConn 'Future of Learning' Conference**† [**ALL**]: Once per year, host an internal, community-centered unconference/poster session for UConn faculty to explore best practices for teaching and learning (e.g., digital exhibitions around all topics, similar to the 2019 UConn Forward event: pedagogy, classroom design, online instruction, voices of people most affected by pedagogy); encourage folks to share their experiences (including a 'Hall of Failure') and talk with colleagues about novel instructional endeavors.
- **Permanent 'Future of Learning' Committee**† [**ADMIN**]: Make the UConn Future of Learning committee and associated subcommittees permanent so the university can continually assess/reassess its technological, pedagogical, and professional development needs.
- **Champion Exemplars** [**ALL**]: Actively identify, recognize, and promote department 'champions' by communicating faculty instructional successes within departments as well as interdepartmentally; this could include collaboration with CETL to create a 'showcase' webinar series that spotlights exemplar UConn instructors.
- **Knowledge Base + Social Media** [**FACULTY**, **CETL**, **ITS**]: Organize information as a knowledge base that includes some sort of interaction between colleagues; organize materials already possessed by ITS and CETL into a curated, user-friendly searchable series of 'best practices' for university instruction (including recommendations from the Future of Learning committee).
- **SET Survey Adjustments for Class Modality** [**ADMIN**]: SET surveys should be used to evaluate each modality independent of the others; the results of modality-adjusted surveys could be applied to 1) maintain institution-wide standards for hybrid and online courses, and 2) inform best practices for instruction across the university.

II. INSTRUCTION & ASSESSMENT CHALLENGES IN AN ONLINE ENVIRONMENT

Conventional instructional materials, assessments (e.g., multiple-choice exams), and other artifacts produced through face-to-face course experiences (e.g., lab activities, discussion group meetings) have necessarily been adapted for online instruction with varied levels of success. There remain a number of challenges that must be addressed for the university to establish reasonable, equitable, accessible, and effective instruction and assessment standards across all of its face-to-face, hybrid, and virtual course offerings.

For instance: it is difficult in an online space to verify that a particular student performed the tasks under the parameters of the assessment (e.g. working alone, not external web sites, other resources). Though there exist tools intended to enhance academic integrity (e.g., compulsory webcam use, computer-lockdown proctoring software), there are also complex ethical questions surrounding these approaches. Regional campus instructors struggle with different challenges based on which spaces, technologies, and other resources are available at the given site, and lack of expertise and staffing (e.g., no electrician, IT support) has ripple effects to instructional quality.

Major university-wide challenges include:

- **Authentication & Academic Integrity:** *How do we verify students are who they say they are?*
- **Privacy:** *How do we respect student/faculty privacy while also encouraging participation in virtual spaces?*
- **Large Course Support:** *How do we support instructors responsible for assessing dozens or hundreds of students, particularly given administrative initiatives regarding Life Transformative Education (which necessitate one-on-one interaction between students and faculty)?*
- **Regional Campus Support:** *How do we ensure equitable resource availability across all university campuses and programs?*
- **Practicality:** *Which online platforms best facilitate interactions for different environments/content?*
- **Fulfillment of Experiential Learning Objectives:** *Which technology tools are required to optimally supplement hands-on experiential learning (e.g., labs, field work, practicums)?*

Recommendation(s):

- **Fund Instructional Supports**† [ADMIN]: The President's and Provost's offices regularly signal the importance of Life Transformative Education for all UConn students, but departments, institutes, and programs are simultaneously directed to cut instructional costs by teaching more students in larger lectures with fewer supports (e.g., teaching assistants). Large lecture formats are **NOT** conducive to instruction for all disciplines, and many courses (in the Humanities and Social Sciences, specifically) grapple with challenging content (e.g., anti-Black racism, racism, sexism, homophobia, transphobia, ableism) that demands non-lecture-based pedagogy (e.g., small group discussion). Solving this preeminent issue demands additional funding for support resources that enable instructors to distribute workload and guarantee one-on-one Instructor-Student interaction. The university **CANNOT** equip learners to be successful advocates for social justice, climate, and other crucial concerns if challenging content is presented didactically through 120+ person lectures and multiple-choice tests rather than hands-on participation.

- ***Migration to Personalized, Project-Based Assessments***† [FACULTY, CETL]: Where possible, programs/courses should develop longitudinal, project-based, and life transformative assessments that require student-instructor interaction that cannot be manufactured, cheated, faked, or circumvent authentication measures; this includes educating faculty/students about existing software options (e.g., Gradescope, Portfolium, features of Blackboard) and pathways toward adopting standards-based assessment measures, artifact/learning objective crosswalks, and course, program, or department-wide rubrics.
- ***Ungrading***†¹ [ADMIN, FACULTY, CETL]: Facilitate migration of university courses away from alphanumeric grading schemes and toward proficiency-oriented, program-level portfolios wherever possible; rather than A, B, C, D, or F, student transcripts would showcase specific learning objectives alongside information about the student’s corresponding level of proficiency (e.g., Below, Meets, Exceeds Standards). This type of longitudinal, standards-based evaluation is already common practice within the UConn School of Dental Medicine and can/should be exported to other departments/programs.
- ***Instructional Space Renovations*** [ADMIN, ITS]: Renovate all instructional spaces to accommodate hybrid and online course formats, including livestream-capable cameras, audio integration, and real-time captioning; however, because only ~10% of the renovation can be completed through the academic renovation team, there needs to be coordination between individuals across academic renovation, technology-integration, and facilities/maintenance (e.g., fresh paint, improved lighting, reconfigured seating).
- ***Coordination/Centralization of Campus Supports*** [ADMIN, ITS]: Coordinate projects (e.g., renovation) across campuses by ensuring 1) every campus has full-time staff to address technical problems that impede instruction (i.e., electrical, ITS), and 2) there is a central contact or supervisor to organize and troubleshoot.
- ***Continued Review of Online Platforms*** [ADMIN, CETL, ITS]: As all online teaching and learning platforms/resources come with tradeoffs (e.g., WebEx connectivity and lack of live captioning functionality; insufficient Blackboard Collaborate tools for large-enrollment courses), the university should continue to review which tools it utilizes on a rolling basis

III. LABORATORY EXPERIENCES IN AN ONLINE ENVIRONMENT

Laboratory and design exercises are critical to many STEM disciplines and part of a well-rounded general education. Such activities are quite diverse, and the hands-on skills developed through laboratory experiences are often necessary to enter the state workforce or experience other forms of post-graduation success. Yet, they are not easily replicated in online environments. Major challenges include:

- ***Incompatibility with Digital Replacement:*** *How do we identify which hands-on lab experiences can be adapted for distance learning?*
- ***Future Proofing:*** *How do we make laboratory experiences more accessible to a greater number of students both in general and if/when physical space is limited in the future?*

Recommendation(s):

- **Empower Localities**† [ADMIN]: Support departmental decisions about lab offerings and leave decisions about which labs to require as in-person vs. hybrid vs. fully online in the hands of on-the-ground instructors (allowing for differences between disciplines/content areas). Likewise, encourage approaches driven by learning goals and outcomes—learning goals should include attitude, skills, and motivation gains beyond “knowledge.”
- **Technology Awareness** [FACULTY, CETL]: Encourage programs, departments, and instructors to keep abreast of global instructional innovations in their disciplines; this means supporting departmental decisions to restructure as appropriate and respecting their expert conclusions about the pedagogical appropriateness of converting particular kinds of laboratory experiences to virtual formats.
- **Virtual Reality Laboratory Training** [FACULTY, CETL, ITS]: Explore the long-term potential for virtual reality technologies to supplement in-person lab training; this may include STEM simulation or game design partnerships between faculty and students from Digital Media & Design and the sciences aimed at replicating specific laboratory-based scenarios capable of preparing students for real world lab experiences (e.g., *HoloLab Champions*, *Labster*).

IV. STUDENT ENGAGEMENT IN ONLINE SETTINGS

In an online setting, the personal touch of face-to-face instruction is noticeably absent and difficult to replicate. Challenges include:

- **Report:** *How do we encourage students to participate as more than voiceless gray boxes?*
- **Identity:** *How do instructors and students express themselves and their ideas in virtual or virtual spaces that necessarily limit agency and bound user behavior?*

Recommendation(s):

- **Text Chat** [FACULTY]: Encourage faculty/instructors to utilize live text chat or other side conversation tools to improve both engagement and accessibility during synchronous class sessions; while students are engaged in small group discussion or whole-group observation, maintain a running conversation in real time.
- **Profile Options** [FACULTY, CETL]: Recommend that faculty/instructors give students the choice to have cameras on or off, but require that all students add a profile image to reduce the number of blank gray boxes instructors are speaking to (i.e., create a sense of presence in the online space).
- **Avatar-Based Interaction** [FACULTY, CETL]: Recommend that faculty/instructors utilize avatar-based meeting tools to simulate elements of in-person/face-to-face interaction (e.g., emojis accepted/encouraged in text chats, game-based environments, virtual reality, browser-based meeting tools like *GatherTown*).

V. INTEGRITY OF MATERIALS DEVELOPED AT UNIVERSITY OF CONNECTICUT

Expert-developed instructional and assessment materials take enormous human resources to construct and thus represent one of the university’s most valuable assets. Yet, many faculty/instructor-created materials are distributed *en masse* across the internet. Major challenges include:

- **Intellectual Property Protection:** *How do we maintain security of assessment materials such that students cannot or are incentivized against sharing them (e.g., photos of exam questions)?*

Recommendation(s):

- **Intellectual Property Enforcement**† [ADMIN]: Provide enforcement assistance to faculty seeking to have materials removed from sites that violate their intellectual property rights; this could include issuing cease and desist memoranda to offending individuals/organizations. Additionally, administration should define and communicate to instructors which reporting chains will lead to university action with respect to materials security.
- **Study & Advise on Materials Security** [ALL]: Convene a committee of experts on materials security to propose mechanisms for safe/limited access storage. There may be legal disclaimers or copyright indicators that can provide protection if instructors are provided guidance on how to label their own work (e.g., open source, creative commons, etc.). Recommendations should be widely distributed to instructors across the university.

VI. ACCESSIBILITY & EQUITY

Separate from the aforementioned challenges regarding instruction and assessment, there are unique issues with respect to course accessibility and equity that must be addressed to create a truly accessible and equitable University of Connecticut learning experience. Accessibility requires giving equitable access to all members of the community along the full continuum of human ability and experience. This encompasses both general legal compliance as well as how we collectively create space and opportunity for each community member based on their unique characteristics. Challenges include:

- **Internet Access:** *How do we ensure all learners are able to participate in remote/distance teaching and learning environments given disparities in technology/internet access?*
- **Universal Design:** *How do we ensure all courses, learning resources, and adopted technologies are accessible to all faculty and learners?*
- **Tutoring:** *How do we maintain the Q Center/supplemental supports in a distance/online teaching and learning environment? How do we support peripheral services?*

Recommendation(s):

- **Live Captioning**† [ALL]: Ensure that courses with video components have access to live captioning technology so all students/participants can follow what is happening on screen.
- **Accessibility Review**† [ADMIN, CETL, ITS]: Maintain a task force as part of all technology adoption processes that specifically evaluates a tool's accessibility/universality; set a minimum standard for accessibility options on all technology contracts.
- **Multimodal Course Availability**† [ALL]: If multiple sections of the same course run simultaneously, offer at least one of those sections as face-to-face and one as online (synchronous or asynchronous as appropriate).
- **Multiple Submission Options**† [FACULTY]: Maximize flexibility by providing alternate submission options to accommodate learners whose limited technology and/or complicated schedules prevent submission of assignments, completing exams in one sitting, or remaining connected throughout an entire lecture/discussion; this pairs with the recommendation to adopt

project-oriented assignments spaced across longer periods of time as opposed to more acute summative assessments (e.g., final exams).

- ***Improve Resource Awareness*** [ALL]: Communicate to faculty the existing tools currently at our disposal (e.g., Lightboard studio, online transcription, LMS content development assistance, etc.); consider mandated instructor training for accessibility design and/or department- or program-level course content reviews/audits.
- ***Financial Support Options*** [ADMIN]: Make available funds for students to apply through the Bursar's Office for subsidized Wi-Fi, computer, camera, and microphone technologies.
- ***Support Resource Integration on HuskyCT*** [CETL, ITS]: Ensure HuskyCT course templates include direct hyperlinks to relevant supplemental supports like the Q Center; these should be given priority placement among other resources featured on HuskyCT course pages.
- ***Course Material Posting*** [FACULTY]: Recommend that instructors record lectures and post them to the corresponding HuskyCT course pages; this includes discussion sessions, presentation slides, and any other 'mandatory' synchronous course content.