Deans Work Group for Remote and Hybrid Education

Final Report

June 2021

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Executive Summary

Online platforms and digital tools for delivering education present tremendous opportunities for UC Berkeley to grow and diversify enrollment unconstrained by physical infrastructure limitations, to make an even greater impact in service to society. The Deans Work Group for Remote and Hybrid Education was appointed in March 2021 to consider a series of questions and to make recommendations to the Chancellor and to the Executive Vice Chancellor and Provost regarding remote and hybrid education. This report summarizes key insights gained through discussions and interviews conducted during the Spring 2021 semester, and offers recommendations to help our campus leaders support and guide academic units in navigating the broad landscape of online education to enhance the excellence and accessibility of the university's educational programs. These recommendations complement those in the report of the Berkeley Academic Senate Divisional Council (DIVCO) Task Force on Online and Remote Instruction Post-COVID, which was published on May 11, 2021.[1] The two reports should be consulted together, moving forward.

Guiding Principles

UC Berkeley's remote and hybrid education activities and programs should

- Extend UC Berkeley's excellence and impart the value of a Berkeley educational experience;
- Support, extend, and enhance, but not seek to replace, our primary mission of residential, in-person undergraduate education;
- Reflect meaningful Academic Senate faculty leadership to ensure high quality;
- Align with UC Berkeley's commitment to access, diversity, equity, inclusion and belonging;
- Grow revenue streams for the campus and academic units providing the programs.

Key Insights for Hybrid and Remote Undergraduate Education

- Online instruction provides targeted opportunities to support enrollment growth, reduce constraints on advancement to degree, and enhance 'elasticity of place', allowing students to pursue opportunities away from the main campus as part of their undergraduate education.
- The objectives and goals of greatest interest to deans of undergraduate programs are:
    - Expansion of summer and concurrent enrollment, with attendant revenue generation;
    - Increased opportunities for students to pursue internships, study abroad, programs at satellite locations (e.g., Moffett Field);
    - Increased opportunities for non-traditional students to continue their education during periods with residence on campus presents challenges;
    - Relieving constraints on class size and scheduling due to limits of classroom availability.

[1] https://drive.google.com/file/d/185Vp_6PJlPcCzX1GDMo51EFdCgeNY1uo/view?usp=sharing

- The goals above can all be accomplished with expanded use of four teaching modalities: fully online asynchronous, online streaming (as in the pandemic), hybrid streaming (supported by newly created classrooms with live capture cameras), and novel modes such as HyFlex.
- Colleges and schools have few or no resources available to support upfront costs of online undergraduate courses, and the campus' current finance models do not provide revenue sources to recoup costs, with the exception of summer sessions and concurrent enrollment.
- Expanded online education raises several significant challenges in policy and practice, particularly regarding the nature of 'residency' as part of education, equity and student conduct in exams and assessments, standards and methods of course evaluation, and related issues.

Key Insights for Online Graduate Education

- In addition to the courses, modality, enrollment, and financial aspects of a new online educational program, attention also should be paid to student experience and resources necessary to ensure student success. It is important to create a sense of community among the students. Flexibility in the program is also important, as students' family and professional circumstances can change. Remote learners expect to have access to advising and career services similarly as students in residential programs do.
- A full range of digital capabilities – from marketing and recruitment to curriculum design, digital content creation and delivery, to advising and counseling, to career planning and placement – is necessary to successfully develop, launch and sustain an online program. These capabilities can be provided either in-house or by a third party through a revenue-sharing partnership or on a fee-for-service basis. There is no "one size fits all" approach, because each academic unit has a unique set of needs, priorities and resources.
- Creation of new online courses can be an expensive endeavor, especially if the faculty require large incentive to develop and videotape a course. (The courses should be developed specifically for online delivery to remote learners.) Costs include faculty, staff and/or graduate student compensation for developing course content, instructional materials and learning assessments, as well as payment for lecture videotaping and editing services. Some suggest budgeting $150,000 per three-unit course to cover all of these costs.
- Partnership with a third-party online program manager (OPM) can provide necessary seed funding and/or provide expertise and services to launch a new online education program more quickly and reach a larger market, to shorten the time to net revenue and possibly maximize potential net revenue. Also, a third party has greater flexibility in providing financial incentive to faculty contributors.

Recommendations

- Establish and publish a framework of guidelines and policies, and provide resources and tools, to guide and incentivize the timely development and successful launch of high-quality remote and hybrid education programs. Some examples:
    - Continue development of learning assessment tools to ensure equity and minimize student conduct issues.
    - Adjust residency requirements if needed to give students the flexibility of taking some

courses online to satisfy degree requirements.
    - Make available to deans and chairs a comparative summary overview of UC Berkeley online degree programs as well as an up-to-date financial template for assessing the financial viability of a proposed online/hybrid program. (Facilitate best practices.)
    - For undergraduate programs (primarily):
        - ❏ Assess methods and standards for course evaluation, and role of online course development and offerings in faculty teaching loads, merits and promotions.
    - For graduate programs (primarily):
        - ❏ Set a reasonable campus tax (less than 15%) on online program revenue and/or attractive rates for Digital Learning Services and enrollment management services.
        - ❏ Allow online course credits, including some earned pre-matriculation, to count toward degree requirements.
- Invest in growth of online programs by bolstering centrally provided services, rather than expect individual colleges and schools to each invest on their own:
    - Provide seed/start-up funding, grants, and/or loans (for revenue generating programs) for new online programs.
    - Expand in-house capacity for developing and delivering new online programs, *i.e.*, in Digital Learning Services for creation and delivery of online courses and in the Office of the Registrar and/or University Extension for enrollment management.
    - Increase staffing for campus organizations involved in the academic program proposal review and agreement negotiation processes (*e.g.*, New Academic Ventures at Berkeley, Berkeley Division of the Academic Senate, Business Contracts and Brand Protection) to increase process throughput.
    - For undergraduate education (primarily):
        - Consider new financial models that will ensure that tuition revenues from enrollment growth are distributed to units that bear incremental costs of education and associated services.
        - Develop more explicit strategies to use summer sessions and concurrent enrollment revenues to support development of online courses that can then be offered during the academic year.
- Be open to relationships with third-party online program managers (OPMs) on a program-by-program basis, and disseminate best practices for working with OPMs, *e.g.*:
    - Assess internal and campus resources (consult Digital Learning Services) as a first step, before deciding to enlist services and/or enter into a partnership with an OPM.
    - Exercise due caution in using third-party OPM market studies.
    - Seek “cafeteria services” with fee-for-service arrangement if practical.
    - Keep OPM contract terms relatively short (no longer than 5 years is preferable).
    - Ensure that the OPM’s platform and systems allow content to be readily ported into the Berkeley learning management system (LMS).
    - Faculty must be in charge of program content & admissions, and retain IP rights.

Responses to Questions Posed

Since the vision, objectives and strategies for remote and hybrid education overlap but are distinctly different for undergraduate programs *versus* graduate programs, responses to the questions posed in the charge letter are provided separately below. Discussions with committee members and campus staff also offered insights into the various strands in the development of online education at Berkeley over the past 20+ years (Appendix E).

Undergraduate Subcommittee Report

The subcommittee on undergraduate programs approached its work by focusing on the institutional and pedagogical objectives that could be supported and achieved with the expansion of remote and online instruction. In that context, we examined the role of various teaching modalities, the key areas of instructional practice and policy that may need to be reevaluated, and the business models and incentives that will be needed to support innovation and expansion of remote instruction in the decanal units. The recommendations of the undergraduate subcommittee were developed through our committee meetings, and strongly informed by a survey of cognizant deans. The results of the survey, and the accompanying recommendations, collectively address the questions in the charge letter, though we have not structured the report as a point by point response.

Deans' Survey

A survey was sent to the 16 deans who are responsible for undergraduate programs: five L&S divisional deans; four non-L&S college deans; CDSS; four professional schools with undergraduate programs (Haas, SPH, SSW, SOE); Summer Sessions and Extension. Thirteen of the 16 deans replied, and all results are anonymous.

1. The first question asked whether deans support the view, advanced by the Chancellor, that enrollment growth is critical to address the University's public mission to provide more access to CA students. The majority (8 of 13) agree or strongly agree with this statement, while only 2 disagree or strongly disagree, and three are neutral.

2. The second question asked whether enrollment growth was a priority for each dean's individual unit. All but one answered yes, for various (non-exclusive) reasons:
    - Enrollment growth is important to pedagogical or strategic initiatives in my unit, independent of cost/benefit (7 of 13)
    - I want to increase my unit's degrees and SCH relative to faculty FTE (with possible benefits for future FTE authorization, TAS allocations, or EVCP general funding revenues) (9 of 13)
    - Enrollment growth of interest if linked to revenue-generation (7 of 13)
    - Summer sessions and Extension stated that they will support whatever enrollment goals are set by the University

3. The third question asked “how strong is your interest in increased role for remote- and online-instruction for your unit, post-pandemic?” Nine of 13 respondents stated their interest was strong or very strong, while three answered that it is not strong, and 1 was neutral.

4. The fourth question identified a wide range of use cases and objectives that could be served with expanded remote and online instruction, and respondents were asked to rate the importance of each one. The complete table, ranked in descending order of importance, is shown here. It is worth noting that all options were ranked as somewhat or very important by a majority of respondents.

Goals (listed in descending order of importance)	**Very important**	**Somewhat**	**Not important**
Expansion of summer courses and/or concurrent enrollment, for revenue-generation	9	4	0
Increase opportunities for students in my unit, or those that take classes in my unit, to pursue off-site internships, study abroad, etc	9	3	1
Increase opportunities for non-traditional students (working parents, part-time students, etc.) who need greater space or time flexibility for their education	7	5	1
Limited availability of classrooms large enough for courses in my unit	5	6	2
I know/suspect some faculty would like the increased flexibility provided by remote/online instruction	4	8	1
Remote/online instruction helps some students learn/perform better	4	7	2
Reducing costs of instruction, if achievable	3	8	2
Remote/online instruction may provide improved pedagogy for some subjects taught in my unit	3	7	3
Opportunity to increase enrollment in small, specialty classes (e.g. w/ students from other campuses)	2	7	4
Possible/likely involvement in Moffett Field; want students to have access to campus classes	2	7	4
Possible/likely involvement in Mills; want students to have access to campus classes	2	5	6
Limited availability of classrooms large enough for courses in other units, impeding progress to degree for students in my unit.	1	7	5

5. The fifth question asked: “High quality remote, and especially online, courses will require up-front investments in content development and additional training for faculty and GSIs. Which of the following best describes your views about these investments?” Answers, in descending order:
   - I would only use my own resources if I expected to recoup investments from future revenues (from campus allocations or direct revenue generation) (7 of 13)
   - Expanded online/remote is sufficiently important that I would use my unit’s resources to fund investments (3 of 13)
   - I would not use my own resources, and would rely on investments or loans from campus (if they can be recouped from revenue) to support my unit’s course development activities (3 of 13)

6. The sixth question asked for deans’ opinions on the role of in-house vs. third-party vendors to provide online course development and management. Note that the undergraduate subcommittee did not dedicate meeting time to learning and discussing the various vendors, as this was a focus of the graduate subcommittee. The answers were:
   - Either ‘I don’t know enough’ or ‘someone else can make this decision’ (8 of 13)
   - I believe Berkeley should build our remote/online courses on bCourses or other in-house platforms (5 of 13)
   - Recommend contracting with a third party vendor (0 of 13)

7. The final question asked about policy innovations or issues that will need to be addressed to successfully pursue expanded remote and online instruction. The answers are ranked in descending order, and as above note that all of them were ranked as ‘somewhat’ or ‘very important’ by a majority of respondents.

Goals (listed in descending order of importance)	**Very important**	**Somewhat**	**Not important**
New policies will be needed on how remote/online courses count towards major, residency, or other requirements	10	3	0
New or improved policies, methods and standards for online assessment are needed, to ensure equity for students and reduce issues with cheating	10	3	0
Expanded range of official modes of instruction are needed, as reflected in registrar’s course listings	9	4	0
New standards and methods of instructor and course evaluation will be needed	9	4	0
New policies will be needed governing student choice (e.g., flex modes where students can decide how they participate in a course)	7	4	2

New ways of counting teaching credit and assigning teaching loads will be needed (e.g., for merits and promotions)	6	6	1

Recommendations

Section A - Goals and teaching modalities

The undergraduate subcommittee began our discussions identifying the institutional and pedagogical goals that can be served by expansion of remote/hybrid instruction. Based on survey results we focus here on the top 4:

- Expansion of concurrent and summer enrollment, with attendant revenue generation
- Increase opportunities for students residing away from Berkeley to enroll in main-campus courses while pursuing internships, study abroad, study at satellite campuses (Moffett Field, UCDC), etc.
- Increase opportunities for non-traditional students (working parents, part-time students, etc.) who need greater space or time flexibility for their education
- Relieve limitations in classroom size to increase enrollment in impacted classes

All of these goals can be addressed by expanded use of four modalities:

1. **Online, asynchronous classes**: Fully online, asynchronous classes are still uncommon in Berkeley's academic year curriculum. The Innovative Learning Technology Initiative (ILTI) grew out of UCOP's ambitious but largely unsuccessful efforts to launch online education at scale. ILTI supported the development of a number of classes at Berkeley, with 42 offered over the past three years. Enrollment in online classes approved by COCI (designated with a 'W') grew to about 4,000 per semester before the pandemic, but that designation will now be dropped to recognize the broader range of course attributes and the lack of any one definition of 'online'. Collectively, these classes host <2% of total undergraduate enrollments. Fully Online classes have also been offered in Summer Sessions, since at least 2008, with enrollments growing to almost 4000 before the pandemic (>10% of total summer enrollment; Appendix B)

   Asynchronous classes provide the most flexible options for students, supporting all the use cases above. We emphasize that high quality, online classes require significant up-front investment to design and build, and dedicated and trained instructors (primary and secondary) for delivery each time they are offered.

2. **Online, synchronous classes:** Fully online, synchronous classes (a la 'remote instruction' during the pandemic) can continue to play a role in the Berkeley curriculum. Faculty are now familiar with the challenges and opportunities, and these avoid the technical issues that may arise in hybrid classrooms, as well as any inequity in student experience, whether students are in residence at Berkeley or at remote locations. This particular mode of instruction has turned out to be very useful in University Extension due to the part-time nature of working adults and will continue beyond the pandemic.

3. **Hybrid, streaming classes**: Hybrid, synchronous classes with video streaming from the classroom also serve all of the goals above. They allow some students to enroll remotely (even if they are in residence on campus), and allow enrollments to exceed classroom size limits. During the pandemic, RTL has started to invest in 'live stream' classrooms which will support this delivery mode, and the next year or two will provide valuable experience on ease of use and quality of instruction for remote students. We recommend that courses assigned to these rooms commit to experimenting with hybrid streaming to gain experience with this approach.

   Note regarding discussion and lab sections: There is a fairly strong consensus that interactive class sessions for small groups, such as labs, discussion sections and seminars, are not well suited to hybrid instruction. For lecture classes that have accompanying sections, and which are designed to accommodate enrollment of physically remote students, we recommend they have a mix of fully in person and fully online discussion sections. Students will need to be able to choose which type they are signing up for, and instructors will need to decide whether to fix the number of seats available through each mode, or to be flexible during enrollment and shift the number of sections of each type (see discussion of 'Flex' below). A mix of in-person and online sections can accompany lectures delivered under all three modalities above, with asynchronous recorded lectures, synchronous online lectures, and hybrid streaming lectures.

4. **HyFlex**: In the past year, Hybrid Flexible (HyFlex) instruction has emerged as a novel modality, referring to creative and flexible use of student driven, in-person and online, synchronous and asynchronous components to build a class[2]. At least one HyFlex class was piloted at Berkeley in spring 2021 ([Rosenblum ESPM class?]). For the purposes of this report, we highlight HyFlex as an option, to emphasize that going forward not all classes should be forced into rigid categories such as those above.

As noted above, COCI has recently dropped the 'W' designation for online, and the Registrar's Office is tracking a range of class attributes that are needed to manage enrollment and classroom assignments[3]. It is also important to recognize that faculty may employ a wide range of online technologies that do not need to be captured in the registration system (e.g., asking students to watch video in advance for a flipped class).

Going forward, the campus will need to decide whether to commit to a discrete set of teaching modalities, vs. a menu of course attributes that can be assembled into different modalities. The former has advantages of (relative simplicity, and allows faculty, students, and advisors to learn what is meant by each modality. This may be especially valuable as the student body continues to diversity and students arrive with a wide range of experience and expectations about their education. On the other hand, a fixed set of modalities could reduce creativity and flexibility. If courses are designed drawing on a mix-and-match of different attributes, it will be important to determine what needs to be captured in the course catalog and the schedule of classes to help students during course selection, and to have clear standards in course syllabi that explain what students can expect and how they will engage with different components of the course.

[2] https://edtechbooks.org/hyflex
[3] https://registrar.berkeley.edu/service-adjustments/modes-of-instruction/

Section B - Standards and policies

Expansion of remote and online education will require various offices and committees on campus to revisit a range of educational policies and teaching standards. We identified six of these, all of which were ranked as somewhat or very important by a majority of deans in our survey, listed here in descending order. With a couple exceptions, we only identified the issues and did not develop specific recommendations as each issue will need to engage different groups of stakeholders, including COCI, the registrar's office, etc.

1. *How online classes count towards residency, major, or other requirements*. We were informed that the senior residency requirement is being reviewed by a systemwide committee, and there are individual campus requirements as well. The existing requirement is based on students being enrolled in classes offered by the home campus. However, if the intent of the policy is to ensure students spend time on the main campus and take advantage of the many less tangible aspects of university life, then it will need to be framed in terms of physical residency rather than enrollment. Individual departments, majors and programs also impose their own residency requirements, which have been framed (in most or all cases) in terms of the number of percent of major requirements that can be filled with online classes. These requirements may also merit reconsideration to address expectations for residency in person, as distinct from modes of enrollment.
2. *Policies, methods and standards of assessment to minimize cheating and ensure equity*. This is a major concern of the Senate committee report as well, and received considerable attention during the COVID-19 pandemic. We reiterate the importance of this topic, but our committee did not spend additional time on specific policies or assessment mechanisms.
3. *Expanded range of official modes recognized and managed by the registrar's office*. To encompass the range of modalities that will meet our needs, we recommend that COCI work with the registrar's office to determine what modes will be officially recognized by campus in the future. We also note that courses may be available in more than one mode, which will impact how students enroll, and that enrollment options may differ for primary (lecture) and secondary (discussion) sections. In the example given above, a hybrid streaming class with dedicated in-person and online sections could in principle allow for four different enrollment options (online or in-person X lecture and discussion), but it may be desirable to simplify it and allow only two (in person lecture and section, or streaming lecture and online section).
4. *Standards and methods for evaluation of teaching*. Aspects of traditional student evaluations will need to be adjusted for online and hybrid teaching, especially for online asynchronous teaching if faculty are not delivering the lectures. Some questions will not be relevant, and others may be needed to provide useful feedback to instructors. If scores for online teaching cannot be directly compared with traditional in-person, this will need to be accounted for in merits and promotions. We also note that there are well documented gender and other biases in student evaluations that have not been fully addressed by campus (and are dealt with inconsistently among units), and this re-evaluation for online education may offer an opportunity to address those issues as well.
5. *Policies governing student choice (FLEX) of how they enroll and participate in classes*. An expansion of hybrid, streaming classes will require a distinction between student flex, in which

students are able to decide whether to attend in person or online on a daily basis, vs. controlled enrollment management where students select or are assigned to in-person or online enrollment for the entire semester, and are assigned to in-person or online discussion sections. Currently, the Registrar's Office allows some classes to enroll more students than the number of seats in the assigned classrooms, and faculty and their respective Dean are responsible for ensuring that in-person attendance does not exceed capacity on any given day. This may or may not need to change in the future, if there is expanded use of hybrid, streaming classes in which enrollment could greatly exceed classroom size, and if instructors and GSIs want to have a more controlled roster of which students are attending in person and which are remote.

6. *How to count online teaching in teaching loads, merits and promotions*. Developing and delivery of online courses involves an expanded range of activities and investments of faculty time. Departments will need to consider how course development may count towards teaching loads, and department, decanal and campus reviewers may need new guidance on how development vs. delivery should be counted in merits and promotions.

Section C - Campus investments and finance models

High quality remote, online, and hybrid instruction requires a significant investment in technology (e.g. recording studios, streaming classrooms), software (course management, recording, etc.) and curriculum development. Some of these costs represent one-time upfront investments, either at the campus level such as recording studios, or for development of new courses after which the cost of instruction for each offering is reduced (though not necessarily less than delivery of in-person classes). Some of these investments, especially in technology and software, should be led by the central campus, to realize the economies of scale for widespread use and to maximize the return on investment of students and faculty learning how to use the systems. The upfront costs for course development can be more decentralized in principle, but it is important to note that the majority of deans do not currently have resources available, especially if there is no model to recoup investments in future revenue generation.

In contrast to graduate education, it is less clear how and whether remote and online technologies can either reduce the costs of instruction or lead to significant new revenue generation for undergraduate education. Currently, the Berkeley campus does not have a direct tuition return model that would allow decanal or departmental units to directly receive a portion of the increased tuition revenue that would accompany net enrollment expansion. On the cost side, we heard strongly held views from committee members that there are very few efficiencies of scale at the margin for undergraduate education, without endangering the quality of education; as one said, "the marginal cost IS the average cost", with the possible exception of new classroom construction if instruction is online. Expanded enrollment results in incremental effort for numerous services beyond direct instruction, including advising, registrar services, schedulers, and great care is needed to ensure that all of the corresponding units receive incremental funding to support the added workload.'

Based on these observations, we offer the following recommendations:

1. We recommend that the **central campus continue to invest in centralized support services** for all aspects of remote and online instruction, through the Research, Teaching, and Learning teams and other supporting units. This may include the need for more sophisticated curriculum management software to track course attributes and different enrollment modes, linking registration, scheduling, and advising. Unlike professional education, undergraduate enrollment does not bring in supplemental revenue streams, placing significant constraints on the capacity to engage with outside vendors. This is the topic on which the recommendations of the two subcommittees are most divergent. Revenue sharing with third-party vendors could reduce the resources available to support on-campus investments in online course development and support.
2. We recommend **exploration of more explicit models that draw on summer sessions and concurrent enrollment, where there is net revenue generation, to fund the investment in new online courses**. Classes could be built for summer first, and then transferred to the academic year curriculum, or expanded enrollment from concurrent students could help defray costs of course development. A primary limitation to this is that many concurrent students enroll with the specific goal of spending time on the Berkeley campus and (for international students) in the U.S. So the demand for online-only concurrent enrollment may be limited.
3. We recommend the **central campus should develop both grant and loan programs to support development of online courses**. These also allow campus to incentivize desired outcomes, such as suites of courses (a la Semester in the Cloud) to support students at Moffett Field, or structured programs offered by departments to allow cohorts of students to pursue internships (e.g., art or media students spending a semester in LA or NYC).
4. We recommend that the **central campus consider a new finance model for units that pursue new programs leading to net enrollment growth** (i.e. not simply drawing students away from other majors). The modified finance reform model currently in place provides for allocation of revenue growth due to increases in tuition or state allocations, which would be shared among all units in proportion to the finance reform metrics (note this has not yet been implemented). This approach does not provide the incentives needed for a unit that may want to create a new program that would lead to net enrollment growth at the campus level.
5. We recommend that the **central campus conduct a careful analysis of the incremental costs incurred by all academic and administrative units associated with enrollment growth**, to ensure that any revenues or philanthropic investments are distributed equitably to support these costs. Important components include the distribution of where students take classes, as a function of their major (i.e. students in science majors will increase SCH demand in gateway classes across multiple units, as well as breadth courses), advising costs, Registrar's Office, etc.

Section D - Opportunities for targeted investment and support for student experience

Based on input from the VCUE, we reached out to several programs that have already made significant investments in online instruction, to determine if they would be interested in serving as pilots or in expanding their online offerings. Queries were sent to Media Studies, Political Science, Psychology and Education. Challenges the departments identified include finding the (right) faculty to develop the online

courses, needing more resources for training GSIs in online pedagogy, and learning that advising staff has limited bandwidth for new endeavors. See Appendix C for full responses from these programs.

Education replied affirmatively that they would be very interested in expanded programming, and Media Studies is thinking broadly about how to extend the reach of their programs. Data Sciences has long experience addressing high demand using online materials, and creative initiatives underway that could align well with campus goals, and should certainly be part of any future investments. Finally, to support students pursuing opportunities away from campus, the most valuable investments may be a suite of classes that satisfy breadth and prerequisite requirements (a la 'Semester in the Cloud') to ensure timely progress to degree, regardless of major. One possibility in that regard, for introductory science classes, is to separate the lecture and lab components, and offer the lecture class online during the academic year, and the labs in summer to take advantage of idle capacity in teaching labs.

As a final point, we want to emphasize the importance of investing in remote access to support services and student experience (advising, extra-curriculars, student organizations, etc.) for programs that are supporting students living away from Berkeley. Students in concentrated settings, such as Moffett Field, UCDC, and some overseas locations, may be able to build community locally, reducing some of these needs. Others, such as students pursuing internships and non-traditional students studying from home, will need access to a full suite of services to support their education and provide a 'Berkeley experience'. We only briefly discussed the possibility of full, four-year online degrees where a student never or only infrequently visits campus, and for whom this issue would be especially important. For students pursuing one semester or even a year away from campus (especially if it's after freshman year), they would be able to build on the community and engagement with campus organizations that they have established while on campus. In all cases, necessary services such as advising, registration, etc. must be fully supported and available in a remote or online environment.

Graduate Subcommittee Report

1. What should be the vision, objectives, and strategies for remote/hybrid education at Berkeley?

Vision

Remote/hybrid education should **enhance and grow the impact** of Berkeley's graduate programs.

Objectives

Online programs should **expand access** and **provide new curricular pathways** to Berkeley's graduate programs and lifelong learning opportunities, with the following values and guiding principles to protect the Berkeley brand and to fulfill the university's public mission:

- Excellence: high-quality course content, instruction and student learning experience
- Equity and inclusion: commitment to the success of a diversity of learners

Strategies

Graduate online education programs **should be designed to be sustainable**; that is, there must be sufficient learner demand as well as sufficient resources (human, capital and financial) to support the full spectrum of activities required (cf. response to Question 2 below). Graduate online education programs also should be **profitable** (*e.g*. self-supporting graduate professional degree programs, SSGPDPs) to help address growing financial challenges for the Berkeley campus. A new online master's degree program can easily cost more than $1MM and take multiple years to develop after it is approved by the President of the University of California. **Partnership with a third-party online education program/service provider can provide this necessary seed funding and/or provide expertise and services to launch the online education program more quickly and reach a larger market, to shorten the time to net revenue and possibly maximize potential net revenue.**

2. How can Berkeley grow new programs that are self-sustaining, reach diverse new populations, and are aligned with our faculty's interests?

The landscape for remote graduate education is wide-ranging with regard to types of programs and diversity of learners. Sufficient faculty interest and commitment (time and effort) is necessary for any educational program to be approved[4] and to succeed in the long term. **Faculty members must have compelling incentive(s) to contribute**, beyond the assurance that they are helping their home academic unit expand access and/or fulfill a strategic need or opportunity; this can be in the form of credit for university service (*e.g*., for a state-supported professional master's program) or financial compensation (*e.g*., for a SSGPDP). It is relevant to note here that University of California academic personnel policy stipulates[5]

> "When the faculty member is receiving payment from other University sources during the

[4] For policies and procedures regarding the creation of academic programs, see the Berkeley Compendium at https://docs.google.com/document/d/1Zr2gFqGKCrY8wGVyoXdN3RB_NjIWqZTcjTD5a3bEA8c/edit?usp=sharing

[5] See APM 663-18.b(2) [https://www.ucop.edu/academic-personnel-programs/_files/apm/apm-663.pdf]

summer or off-duty term, the faculty member may not receive more than three-ninths for all such services combined."

That is, if a faculty member does work in support of an online educational program (*e.g.*, designing an online course, creating digital content, teaching an online course, *etc.*) during the summer or off-duty term – when faculty members generally have more time for such work – then they may not earn more than one-third of their nine-month salary rate in total from the university. Thus, if a faculty member typically already earns three-ninths in University summer salary paid from research grants and/or discretionary funds, as is common for faculty in STEM fields, then there would be no financial incentive to do this additional work during the summer or off-duty term (on the days for which they are not paid to conduct research) – unless they are not paid for this additional work by the university but instead by a third party. This **greater flexibility in providing financial incentives to faculty contributors is an advantage of partnering with a third party**.

In planning a new remote or hybrid post-baccalaureate educational program, one should keep in mind that **a full range of digital capabilities is necessary to successfully develop, launch and sustain an online program** across the following categories of activities:

- Demand and Discovery: marketing and recruitment, enrollment management;
- Learning Design: curriculum design, digital content creation and delivery;
- Learner Experience: academic administration, advising and counseling, learning assessment;
- Work & Lifelong Learning: career planning and placement, alumni engagement.

Each of these capabilities can be provided either in-house or by a third party through a revenue-sharing partnership or on a fee-for-service basis. **There is no "one size fits all" approach, because each academic unit has a unique set of needs, priorities and resources.** Typically the individual academic units provide administration and advising services for their own educational programs. The central campus presently offers enrollment management services through the Office of the Registrar and Learning Design resources through Digital Learning Services[6] (cf. Appendix D2). **It would be a worthwhile investment for the campus to expand the capacity of these "baseline" services, to support the growth of revenue-generating online graduate education programs and to accelerate development of online courses to enable enrollment growth.**

It is important to note here that **faculty members must be the ones who design the intellectual content of the courses and the curriculum and faculty members also must be in charge of the admission process, following academic senate policies and procedures.** This will ensure high quality of the program and students, as well as accessibility of the program and due attention to equity and inclusion.

To reach a large number and wide diversity of prospective learners, academic units should consider outsourcing marketing and student recruitment services to reputable online program providers such as edX, Coursera and 2U**,** which each serve millions of remote learners.

[6] https://dls.berkeley.edu/

3. Would satellite locations factor into a strategy for remote and hybrid learning at the graduate level?

A major attraction of remote and hybrid education programs, particularly for working professionals, is that students do not need to attend class sessions in-person. It is expected that classroom and instructional laboratory space requirements can be minimized and accommodated on the Berkeley campus. The cost of maintaining a satellite campus is unlikely to be substantially subsidized by using it for online graduate education programs.

4. In our resource-constrained environment, where should Berkeley pilot new programs and begin remote and hybrid education efforts?

To minimize financial and reputational risks and achieve return on investment more quickly, online versions of existing popular/over-subscribed courses (*e.g.*, in Data Science and Computer Science) can be developed for high-quality remote education, to enable enrollment growth and hence revenue growth. As more online courses are developed, new online certificate and/or degree programs can be established based on these courses to grow new revenue streams.

One bottleneck in our curriculum is mezzanine-level courses required for undergraduate Data Science majors and that are popular with graduate students. Compounding this challenge is the fact that many students enrolled in professional degree programs find the heavy workload of upper-division courses to be very challenging. A solution is to develop online versions of Data 100 (Principles and Techniques of Data Science)[7] and similar heavily impacted courses. By taking advantage of the modular nature of online courses, portions could be repurposed for other undergraduate course offerings. Yet another opportunity is to offer the developed online course content through Summer Sessions and University Extension (via concurrent enrollment and partner institutions) for additional revenue generation opportunities. In other words, the considerable effort of constructing the online course could benefit the undergraduate program and provide instructional resources for a revenue-generating SSGPDP program. A further benefit of generating courses of this type is that they will serve to promote Berkeley's leadership in undergraduate education beyond our campus and help build bridges to other institutions.

5. What campus policies [and practices] need to be updated to allow remote and hybrid instruction to be successful at a wide scale?

Policies and best practices should be established to guide and incentivize the timely development and successful launch of high-quality remote and hybrid graduate education programs. Topics to be addressed include the following:

Financial policies

- Allowable sources of start-up funding;

[7] https://data.berkeley.edu/education/courses/data-100

- Revenue expectations, *e.g.*, maximum number of years to achieve net revenue, minimum net revenue per student, *etc.*;
- **Campus tax on online program revenue**[8] **and/or fee schedule for campus Digital Learning Services and enrollment management services**.

Academic senate policies

- Clear requirements/standards for online versions of existing courses (to be approved by the Committee on Courses of Instruction);
- **Allowance of** (a limited number of) **online course credits earned pre-matriculation to count toward degree requirements**[9] (cf. Appendix D1).
- **Adjustments to degree program residency requirements**[10] if needed.

Best practices for advancing diversity, equity, and inclusion

- Inclusive marketing & outreach;
- Unbiased admissions;
- Equitable allocation of financial aid;
- Recruitment and retention of a diversity of students.

Services for SSGPDP students

New online/hybrid degree programs are likely to be designated as SSGPDPs due to larger shares of revenue for the Berkeley campus and home academic unit. Per UC policy, SSGPDPs cannot utilize resources supported by state funds. As such, students enrolled in SSGPDPs do not have access to the same services (*e.g.*, services for student parents) offered to graduate students in state-supported programs.[11] This differential access is not only confusing but also potentially alienating to SSGPDP students (cf. Appendix D1). To address this issue, the campus could require SSGPDPs to allocate a larger percentage of revenue to the central campus in order for SSGPDP students to have access to the same services provided to students in state-funded programs; otherwise, prospective and current SSGPDP students should be made aware of their differential access to services, by updating the Graduate Division Resources & Services webpage. Other central campus units also could help to increase awareness – for prospective students as well as faculty and staff – about the distinction

[8] For example, the Berkeley campus does not assess its typical fee of 15% of revenue for the Master of Information and Data Science (MIDS) program; otherwise, this program would not generate net positive revenue for the School of Information.

[9] The Online/On-campus Master's of Public Health (OOMPH) program is currently conducting a pilot in which students are allowed to use pre-matriculation credits earned through University Extension (XB courses) to count toward their degree. If it is successful, the Graduate Council will most likely continue to approve pre-matriculated courses on a case-by-case basis, and may consider a blanket agreement.

[10] Some online degree programs have in-person required components; for example, OOMPH has in-person sessions at the beginning and at the end of the program and MIDS has a four-day "immersion" event on campus. The academic senate's view is that there is precedence for flexibility in residency requirements. It should be noted that the University Committee on Educational Policy has proposed revisions to *UC Senate Regulation 610, Defining Residency*: See https://senate.ucsd.edu/current-affairs/issues-under-review/uc-senate-regulation-610/

[11] https://grad.berkeley.edu/students/

between state-supported graduate programs and SSGPDPs. For example, the Fee Schedule page[12] maintained by the Office of the Registrar does not mention SSGPDPs.

6. How should the financial model for remote and hybrid instruction work for the central campus, schools and colleges, and individual academic departments? What should be the incentives for instructors to participate? How can a model provide sufficient support for new faculty lines?

An independent market study should be conducted by New Academic Ventures at Berkeley (NAV-B),[13] following the principles laid out in the *Final Report of the Joint Administration-Academic Senate Task Force on SSGPDPs*,[14] to determine the viability of proposed new online graduate education programs (*vs*. online versions of existing successful graduate programs). To help deans and department chairs develop financially viable proposals, the campus administration and academic senate should establish a framework of guidelines and policies for online programs, and provide resources and tools including the following:

- A comparative summary overview of UC Berkeley online degree programs – an initial draft is here.[15]
- **An up-to-date financial template for self-supporting online education programs** as described in detail in the *Final Report of the Joint Administration-Academic Senate Task Force on SSGPDPs*. This is a tool for assessing the financial viability of the proposed program; it projects revenue from program fees as well as expenses (start-up costs as well as ongoing instructional and operational costs associated with activities as described above under the categories Demand and Discovery, Learning Design, Learner Experience, and Work & Lifelong Learning). Parameters that can be adjusted in the template include program fee level, year-by-year new enrollment numbers, average course-load per semester and time-to-degree, rate of attrition, ratio of students to instructors & facilitators, faculty buy-out/compensation rate, and staff salary+benefits costs.

Ideally, **the campus fee for online SSGPDP programs should be smaller than for on-campus SSGPDP programs** because fewer campus resources (*e.g*., space and facilities) are required to support online programs. This would give academic units more incentive to establish online SSGPDPs. We acknowledge that online programs require some campus resources such as in the Office of the Registrar and Financial Aid and Scholarships Office. These resources should grow with the number of online education programs, so a campus fee is justified. (Also, these offices have operations based on a fall and spring admissions cycle, whereas online education programs may operate on a rolling admissions cycle, which could possibly strain their systems.)

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[12] https://registrar.berkeley.edu/tuition-fees-residency/tuition-fees/fee-schedule/
[13] https://navb.berkeley.edu
[14] https://drive.google.com/file/d/1x7USCHUyfkT8HBr0G_tYv6IkbwRZO_f0/view?usp=sharing
[15] https://docs.google.com/spreadsheets/d/1RefVFHRVWjKB7-Jr6ppEvNQqmHTz2t7lRA-_ZBAjqJE/edit?usp=sharing

Faculty participation, especially during the development and start-up phases of a new online education program, is essential for the success of an online education program. (For example, for the MIDS program, ladder-rank faculty were involved in the development and teaching of courses during the first year only; instruction was taken over by adjunct faculty and lecturers in subsequent years.) Incentives for faculty to participate include:

1. The prospect of growing the size of the faculty in the home academic unit, since SSGPDP revenue can be used to support the salary & benefits of additional faculty members;
2. Teaching buy-out, whereby a portion of the faculty member's normal teaching commitment is exchanged for teaching in a SSGPDP (freeing up a portion of regular salary for other use by the faculty member's home academic unit).
3. Overload payments, including additional compensation through summer salary (which is limited to three-ninths from all University sources unless paid by a third party). It should be noted that faculty compensation rates for creating online courses and programs vary substantially across the campus:

Summer Sessions:	$10K per course regardless of the number of units
OOMPH:	approximately $30K for creating a new online course
Internal OPM:	$10K/unit for creating an online course
College of Engineering:	$20K/unit for creating a new online course

Therefore, SSGPDP development cost is substantial and can vary widely; it can easily exceed $1MM total to compensate faculty, other instructors and staff, and to pay for marketing, digital content creation, advising and career services, *etc*. Experiences with existing Berkeley online degree programs (cf. Appendix D3) show that it is not easy to achieve net positive revenue by Year 4 as required by university policy (requiring a new SSGPDP to be entirely self-supporting after 3 years).[16] This is why the aforementioned financial template planning tool is so important.

It is worthwhile to note here a concern expressed in the *Final Report of the Joint Administration-Academic Senate Task Force on SSGPDPs* that "heavy overloads on an ongoing basis risk diverting valuable faculty research time to revenue generation…" The Task Force recommended – and we concur – that academic units offering SSGPDPs each develop a fair, transparent teaching compensation plan that specifies the role that Senate faculty will play in developing and teaching in an SSGPDP.

The *Final Report of the Joint Administration-Academic Senate Task Force on SSGPDPs* also contemplates in detail the hiring of faculty on SSGPDP funds, through regular appointment processes consistent with all relevant academic personnel policies, including APM 190, Appendix F (Policy on the Use of Non-19900 Fund Sources to Support Ladder-Rank Faculty).[17] Clearly, it is important to ensure the financial viability of an SSGPDP before establishing new faculty lines funded by the SSGPDP. **The campus administration and academic senate (Budget and Interdepartmental Relations Committee)**

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16 https://www.ucop.edu/institutional-research-academic-planning/_files/SSGPDP-policy_FINAL_Mar.2018_complete.pdf

17 https://www.ucop.edu/academic-personnel-programs/_files/apm/apm-190-f.pdf

should set financial requirements for hiring of faculty on SSGPDP funds, *e.g.*, net positive revenue for at least two years, with average net revenue sufficient to support the requested new faculty line(s) with reasonable margin for growth.

7. What new investment in support infrastructure will be needed to help scale remote and hybrid instruction?

To expound on the response to Question 2 above, **the campus should invest in growth of online programs, by:**

- **Providing seed funding** for new programs – with guiding principles/prioritization for allocation;
- **Expanding in-house capacity for developing and delivering new online programs**, *i.e.,* in Digital Learning Services for creation and delivery of online courses and in the Office of the Registrar and/or University Extension for enrollment management.
- **Increasing staffing** for campus organizations involved in the academic program proposal review process and agreement negotiation processes, to increase process throughput (*i.e.*, number of new programs approved each semester). It would be very helpful – and save time overall, which is important for competitive time-to-market – for proposers to be able to receive advice and constructive feedback during the formative stage of proposal development. This requires increased staffing of organizations such as New Academic Ventures at Berkeley (NAV-B), Digital Learning Services, the Graduate Division, and the Academic Senate committees (*e.g.*, for the Committee on Courses of Instruction, Graduate Council, and Committee on Academic Planning and Resource Allocation), and Business Contracts and Brand Protection (BCBP).

8. How should the campus approach partnerships with one or more third parties to potentially provide technology, marketing platforms, and seed funding?

The **campus administration and academic senate should be open to partnerships with third-party online program managers (OPMs)** – which can not only provide a complement of required capabilities and services that the campus cannot presently provide at sufficient scale but also provide critical seed funding – **on a program-by-program basis**. These capabilities/services can be any combination of the following:

- (Demand and Discovery) marketing and recruitment, enrollment management;
- (Learning Design) curriculum design, digital content creation and delivery;
- (Learner Experience) academic administration, advising and counseling, learning assessment;
- (Work & Lifelong Learning) career planning & placement, alumni engagement.

For example, UC Berkeley presently does not have significant capacity for marketing and recruitment; these are services for which it would be beneficial to engage one or more external vendors.

Academic unit leaders should first assess internal and campus resources, consulting Digital Learning Services, before deciding whether to enlist services and/or enter into a partnership with an outside

vendor to speed time-to-market and provide critical seed funding. (Rather than giving over 50% of gross revenue to external OPM vendors, the "Internal OPM" model is preferable because it would allow schools and colleges to keep a larger percentage of gross revenue while benefiting the service units and the central campus.)

Key lessons learned, based on experiences with existing online degree programs (cf. Appendix D3):

- **Exercise due caution in using third-party OPM market studies**, for example, when an OPM has an inherent conflict of interest.
    - For the Master of Information and Cybersecurity (MICS) program, the primary market analysis was conducted by 2U, which had all the incentives to launch a program since the School of Information was taking all the risks. The market for this program has not met projections.
- **Seek "cafeteria services" with fee-for-service arrangement if practical.**
- **Avoid long-term (> 5 years) and blanket (applying to all academic units) partnership contracts.**
    - The partnership contract with 2U for the MIDS program is for a 15-year term.[18]
    - The campus' master agreement with edX has no expiration date.[19]
- **Faculty must be in charge of program content, curriculum & admissions, and retain intellectual property rights.**

Additional considerations:

- It is important to clearly articulate programmatic goals (*e.g.*, revenue, timeline, *etc.*) to OPM partners, and to hold them accountable to meet these goals.
- A transactional relationship may be convenient and faster, but may not result in the best outcome in the long term.
- Compatibility of the OPM's platform and systems with Berkeley campus systems, allowing for curricular content to be readily ported into the Berkeley learning management system (LMS) and for two-way synchronization of grades, enrollment and other student data for analytics, research and operations, is an important consideration.

[18] See Slide 14 of the overview presentation at https://docs.google.com/presentation/d/19uGBZ4Eg4jTTTH1zZtnO7RcOEvp6_Xc4Bjz2DxtuSGI/edit?usp=sharing

[19] UC Berkeley's agreement with edX (with respect to UC Berkeley's development and contribution of MOOCs by the faculty of UC Berkeley to the edX online course offerings) is automatically extended for consecutive one year terms until (i) mutual written agreement of the parties to terminate the agreement, (ii) either party provides written notice with 60 days advance notice, (iii) material breach of the Master Agreement, with 30 days' written notice (iv) material breach of attached Schedules, with 30 days' written notice, (v) either party becomes involved in bankruptcy or any other insolvency proceedings, or (vi) if it becomes practically impossible for edX and UC Berkeley to continue to collaborate in a mutually beneficial manner. See Section 18 of the Master Agreement at https://drive.google.com/file/d/1INK-v1X6iMO-RH3UVOwcvIMkW2HIngGi/view?usp=sharing