

UNIVERSITY OF CALIFORNIA, ACADEMIC SENATE

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November 2, 2009

CHAIRS OF SENATE DIVISIONS CHAIRS OF SENATE COMMITTEES

Re: Systemwide Review of the Report of the Senate Special Committee on Online and Remote Instruction and Residency

Dear Colleagues:

I am writing to convey a request for systemwide review of the report of the Academic Senate's Special Committee on Online and Remote Instruction and Residency, chaired by Professor Bruce Schumm. The committee developed eight recommendations, including the formation of a joint Senate/Administrative task force to explore the development of systemwide online curriculum.

Because the UC Commission on the Future will be considering this topic, and because a pilot project to assess online instruction at UC is in the planning stages, we will ask the Commission's Education and Curriculum Working Group and the Academic Planning Council to provide feedback concurrent with the systemwide review.

Although the request for review is being sent to all divisions and systemwide committees, any committee or division may decline to comment if they feel it is not in their purview. If you choose to review this, please submit your comments to senatereview@ucop.edu by Friday, **January 15, 2010**.

Please do not hesitate to contact me if you have any questions regarding this request.

Sincerely,

A handwritten signature in black ink, appearing to read "Henry C. Powell", with a long, sweeping horizontal line extending to the right.

Henry C. Powell, Chair
Academic Council

Copy: Bruce Schumm, Special Committee Chair
Michael LaBriola, Senate Analyst
Martha Winnacker, Academic Senate Executive Director

Encl (2)



SPECIAL COMMITTEE ON REMOTE AND ONLINE INSTRUCTION
AND RESIDENCY

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October 20, 2009

HENRY POWELL, CHAIR
ACADEMIC COUNCIL

Re: Report of Special Senate Committee on Remote and Online Instruction and Residency

Dear Harry,

Enclosed please find the report "Remote and Online Instruction at the University of California," which presents the findings and recommendations of the Academic Senate's Special Committee on Remote and Online Instruction and Residency.

The Academic Council empanelled the Special Committee in March 2009 in response to a July 2008 request from the Coordinating Committee on Graduate Affairs, the University Committee on Educational Policy, and the University Committee on Computing and Communications. The Special Committee met six times via phone conference between March and October 2009. Its first meeting, on March 29, 2009, began a period of research that extended into early summer, 2009, at which point it turned to drafting the enclosed report.

The Committee offers eight recommendations, which can be found in the Executive Summary and in the main body of the text. The Committee recommends no changes to existing Senate regulation and policy, although it does recommend that the Council request a reading of SR 610 by UCRJ, in order to clarify the Senate's stance on the satisfaction of residency requirements via remote and online curriculum.

Overall the Committee finds that while UC's use of remote and online instruction seems commensurate with that of other research-oriented universities, developments in instructional technology may provide benefits and opportunities that the University has yet to fully exploit. To this end, the Committee recommends the formation of a joint Senate/Administrative task force to explore the development of systemwide online curriculum in one or several targeted areas, and provides recommendations on how to oversee the development and delivery of remote and online instruction. The report also discusses the uses of remote and online instruction within and outside of the University, and presents the results of two independent meta-analyses of the efficacy of remote and online instruction.

We hope that the Council finds the report to be of interest. Please do not hesitate to contact me with any questions the Council may raise.

Sincerely,

Bruce Schumm

cc: Martha Winnacker, Senate Executive Director

REMOTE AND ONLINE INSTRUCTION AT THE UNIVERSITY OF CALIFORNIA

**A Report from the Academic Senate Special Committee
on Remote and Online Instruction and Residency**

October 2009



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EXECUTIVE SUMMARY

The Special Committee on Remote and Online Instruction and Residency has explored the use of remote and online instruction within and outside the University of California, finding that, while UC uses remote and online instruction to a lesser degree than the U.S. higher education community as a whole, its use is largely commensurate with that of UC's peer research institutions. Nonetheless, academic studies suggest that expanding remote and online instruction at UC, in appropriate context, may offer opportunities to improve the quality of University-sponsored instruction and increase access to University programs and curriculum. The Special Committee offers the following eight primary findings and recommendations for the consideration of the Academic Council:

1. *Instructional technology offers a significant potential to increase learning effectiveness and access that UC has yet to fully exploit. The Committee recommends that the Academic Senate support faculty and departments interested in the development of remote and online curriculum and programs consistent with the mission of the University. The faculty's authority to develop and implement new approaches to instruction lies within the mandate of academic freedom.*

At the same time, the Committee recognizes that UC must remain committed to promoting its quality and reputation, irrespective of the mode of delivery of instruction. Therefore, the Committee recommends that:

2. *The Academic Senate should apply identical standards of quality to the delivery of instruction and the evaluation of students, irrespective of the mode of delivery of instruction and the proximity of the student to a UC campus.*

While The Committee encourages the Senate to support appropriately conceived initiatives to increase the use of remote and online instruction, it also cautions that the delivery of remote and online instruction can raise concerns independent of those associated with more familiar face-to-face delivery modes. The Committee feels that Senate oversight bodies should be aware of these concerns as they evaluate curricula and programs with significant remote and online content:

3. *The Committee recommends that the appropriate Divisional Senate committees develop a list of supplemental points to be addressed by faculty requesting approval of new courses and programs with a significant component of remote or online instruction.*

To this end, the Committee provides a list of issues unique to remote and online instruction for Divisional Senates to consider as they develop and refine local mechanisms for overseeing curricula and programs that make significant use of these formats.

The UC Senate course approval process focuses on course content and assessment rubrics rather than the qualifications of individual instructors. However, the Committee notes that some institutions, most notably the California community college system, require approval of individual instructors for remote/online classes. Furthermore, many institutions that do not offer explicit training for face-to-face instruction do provide training and support for those faculty engaged in remote and online instruction. In this vein, the Committee recommends that:

4. *Inclusion of remote and online instruction within the UC curriculum should be accompanied by appropriate training opportunities for participating faculty. UC Academic Senate Divisions should consider the value of approving individual instructors who teach courses with significant remote or online content.*

The Committee identified a number of impediments to offering common curricula to students at more than one UC campus. In light of these, the Committee recommends that:

5. *The Academic Senate should request that local and system-wide UC administrators work together to fully implement Senate Regulation 544, which gives students the right to enroll simultaneously in a course or set of courses at their campus and another UC campus, by developing a unified approach that codifies and simplifies the processes of advertising, registering for, and reporting grades for intercampus curricular offerings. The Academic Senate and Administration should also work together to facilitate students' attainment of general education or major credit from intercampus enrollments.*

Several such impediments are enumerated and discussed in the body of the report that follows.

Academic studies suggest that, in certain contexts and subject areas, online instruction may allow for a more efficient use of University resources than traditional face-to-face instruction. This possibility may prove attractive to departments and other academic units as they respond to worsening budgetary exigencies. The Special Committee acknowledges the potential value of such cost savings, but cautions that start-up costs can be daunting, and recommends that attempts to realize such savings be executed with careful oversight from the Senate. To this end, the Committee recommends the development of a joint Senate/Administrative proof-of-principle initiative that would orchestrate the offering of one or several large-enrollment courses via a University-wide online format:

6. *The Committee recommends that a joint Administrative/Senate task force be convened to explore the benefits and disadvantages of increasing the use of online instruction in the core curriculum of the University.*

Quite generally, the Special Committee finds that existing Senate regulation provides an adequate framework for the approval and oversight of evolving modes of delivery of University curriculum and programs. As such:

7. *The Committee recommends no changes to system-wide Senate policy or regulation.*

In the matter of residency, however, this finding rests on a reading of Academic Senate Regulation 610 that may be open to interpretation. Accordingly, the Committee recommends a reading of this regulation by the University Committee on Rules and Jurisdiction (UCRJ):

8. *The Committee recommends that the Academic Council direct UCRJ to review the language of SR610, and advise the Senate as to whether SR610 admits resident credit for any course approved by the appropriate Divisional Committee, regardless of the mode or location of delivery. Should UCRJ find this not to be the case, the Committee recommends that the Academic Council propose an amendment to SR610 that would engender this characterization of residency.*

INTRODUCTION

The rapid progress of instructional technology, combined with the promise of greater access and flexibility, has led to a great increase in the use of remote and online formats in the delivery of college and university curriculum. Institutions and the students they serve are attracted by the potential of remote and online instruction to improve and expand educational access, allow for self-scheduled and self-paced learning, increase the degree of interactive engagement within the didactic components of instruction, reduce the amount of repetitive work required of instructors, and promote digital literacy skills. A 2007 survey of 2,500 colleges and universities¹ revealed that “over twenty percent of all U.S. higher education students were taking at least one online course in the fall of 2007”, while “the 12.9 percent growth rate for online enrollments far exceeds the 1.2 percent growth of the overall higher education student population”. This rapid increase in the use of remote and online instruction, combined with a round of exceptionally severe fiscal challenges, suggest that it is time for the University of California to assess its own use of remote and online instruction.

To this end, the Academic Senate convened a Special Committee on Remote and Online Instruction and Residency in early 2009, comprised of faculty representatives from most UC Senate Divisions, the chair of the UC Davis Academic Senate, and the chairs of the Coordinating Committee on Graduate Affairs (CCGA), the University Committee on Computing and Communications (UCCC), and the University Committee on Educational Policy (UCEP), with Academic Senate staff support (see Roster, Appendix I). These three system-wide Senate committees had generated the request for the formation of the Special Committee in July 2008 (see Request, Appendix II), recommending that a special committee research the state of remote and online instruction both within and without the University, propose system-wide Academic Senate policy and regulation as appropriate, and generate a “white paper” report that could provide guidance to the Senate as it considers the possibility of increasing the role of remote and online delivery of University instruction, and how such an increased role might affect the nature of residency. The Special Committee convened six times via phone conference between March and October 2009. Its first meeting, on March 29, 2009, began a period of research that extended into early summer, 2009, at which point it turned to drafting the “white paper” report that comprises this document.

ACTIVITY PRIOR TO THE FORMATION OF THE SPECIAL COMMITTEE

In 2004-2005, UCSC Vice Provost for Academic Affairs George Brown raised the issue of standards for remote and online instruction in a letter to the Santa Cruz Divisional Graduate Council, which the UCSC Graduate Council chair brought to CCGA. Shortly thereafter, CCGA was asked to review a proposal for an entirely online Masters of Engineering at UCLA. As a result, CCGA felt compelled to undertake a broader consideration of academic standards for remote and online instruction, and attendant issues of residency, for the graduate curriculum.

CCGA’s position on these issues was represented in a proposed amendment to [Senate Regulation 694](#), governing residency in Master’s degree programs, that would have triggered CCGA review

¹ Elaine Allen and Jeff Seaman, “Staying the Course: Online Education in the United States, 2008”, http://www.sloan-c.org/publications/survey/pdf/staying_the_course.pdf.

for any Master's program transferring a significant portion of its program to an off-campus venue, including dispersed electronic delivery. CCGA also proposed a new Regulation 695 that would have provided criteria for determining when remote or online graduate instruction should be counted as off-campus, and established certain minimum standards for remote and online graduate instruction.

CCGA's proposal underwent system-wide Senate review in 2006-2007. As a result of the comments received from Senate Committees and Divisions, CCGA decided that it would have been premature to continue with the proposed changes, and that a broader dialog, including undergraduate education, should be undertaken. The following academic year (2007-2008), UCEP and UCCC (formerly ITTP) joined CCGA in this broader consideration. The three committees authored the [*Dialectic on the Use of Remote and Online Instruction for the Delivery of University Curriculum*](#), which was intended to prompt focused discussion within the Divisions about remote and online instruction and attendant residency issues. The Academic Council reviewed responses from the Divisions at its March 26, 2008 meeting and sent them to CCGA, UCEP, and UCCC for their consideration.

CCGA, UCEP, and UCCC saw within the divisional responses a clear recommendation for the Senate to deepen its study of the issue, and to consult with leaders of initiatives, both within and external to the University, that have made remote and online instruction a central component of their pedagogy. As a result, the three committees proposed that the Academic Council empanel a Special Committee to address the topic in appropriate depth. This proposal was accepted by the Council at its July 2008 meeting, leading to the formation of the Special Committee in late winter of 2009. The Special Committee took the responses to the *Dialectic* as its initial point of reference as it began its study.

PURVIEW OF THE SPECIAL COMMITTEE AND THE SCOPE OF ITS WORK

By the authority of the Regents, the Senate has plenary authority over academic matters, and maintains an advisory role in all other activities of the University. Thus, the authority to approve and oversee remote and online programs and instruction lies within the purview of the Senate. The authority to establish residency requirements and to define the nature of residency also resides within the Senate (see Senate Regulations [610-630](#), [680-712](#), [726](#), and [735](#)).

The Special Committee believes that while exercising this authority lies at the heart of the Senate's consideration of remote and online instruction, the specifics of implementation are best determined by the individual campuses. Therefore, the Committee has decided not to develop and recommend system-wide policy or regulations that would dictate an overall approach to the oversight of remote and online instruction. Instead, we present a report that summarizes evidence from studies that address the efficacy of remote and online instruction, collects references that may aid Divisional Senates in their consideration of remote and online instruction, and lists considerations the Committee sees as unique to its approval and oversight. The Committee recommends that each Division develop guidelines and procedures for the approval of courses and programs with significant remote or online content that are appropriate for the environment and outlook of their campus.

In its publication² “Good Practices for Electronically Offered Degree and Certificate Programs”, the Higher Learning Commission of the North Central Association of Colleges and Schools lists the following responsibilities of institutions sponsoring remote and online programs and instruction:

1. Facilitate the associated instructional and technical support relationships.
2. Provide (or draw upon) the required information technologies and related support services.
3. Develop and implement a marketing plan that takes into account the target student population, the technologies available, and the factors required to meet institutional goals.
4. Provide training and support to participating instructors and students.
5. Assure compliance with copyright law.
6. Contract for products and outsourced services.
7. Assess and assign priorities to potential future projects.
8. Assure that electronically offered programs meet institution-wide standards, both to provide consistent quality and to provide a coherent framework for students who may enroll in both electronically offered and traditional on-campus courses.
9. Maintain appropriate academic oversight.
10. Maintain consistency with the institution’s academic planning and oversight functions, to assure congruence with the institution’s mission and allocation of required resources.
11. Assure the integrity of student work and faculty instruction.

The Special Committee sees items 8, 9, and 11 as falling within the plenary authority of the Senate, while the Senate’s advisory role is particularly relevant to items 7 and 10. The primary purpose of this report is to provide guidance to the Divisional Senates as they carry out these roles.

Remote and online instruction can take many forms, with varying degrees of difference from traditional face-to-face instruction. On one end of the spectrum, online elements can augment traditional face-to-face contact between faculty and students, with little change to the degree and nature of the interaction; such technologically-enhanced instructional formats are often referred to as “blended.” On the other end of the spectrum, face-to-face contact between students and instructors can be completely eliminated and replaced by archival materials that students can download or access via electronic media or Web browsers.

“Remote” and “online” instruction are independent but overlapping notions. Remote instruction refers to instructional formats for which instructors and students are not in the same location. Remote instructional formats can support real-time, or “synchronous”, interactions between students and instructors — for example, video-conferencing — but can also rely on archival (“asynchronous”) materials, with the interaction between students and instructors taking place through email, message boards, or in chat rooms. Archival materials can be in hard-copy, or in

² “Good Practices for Electronically Offered Degree and Certificate Programs”
http://www.ncahlc.org/download/Best_Pract_DEd.pdf

one of several electronic (“online”) forms; hence the overlap between the distinct notions of remote and online instruction. Online instruction, on the other hand, can be delivered either remotely or locally, in the latter case with instructors maintaining varying degrees of direct contact with students through study sections. Online instruction can include archival materials, such as texts and worksheets, but also often employs real-time elements such as chat rooms and instant messaging.

Thus, the subjects of remote and online instruction represent a multi-dimensional continuum. In one region of this continuum, instructional technology is used to enhance traditional instruction, with little change to the nature of the contact between students and instructors. In other regions of the continuum, however, the nature of the interaction between students and instructors is substantially different from that of traditional face-to-face instruction. It is the prospect of the increased use of this latter form of remote and online instruction that is the primary interest of the Committee.

ACTIVITIES OF THE SPECIAL COMMITTEE

The Special Committee began its work with a survey of the UC Divisions’ use of remote and online instruction, asking them to enumerate curricula and programs that make significant use of remote and online instruction, and to describe any policies in place that regulate its delivery and approval. Responses were received from most campuses by the end of the 2008-2009 academic year. The Committee was also informed by a December 2006 report³ authored by the Instructional Technology Working Group (ITWG) of the University’s Information Technology Guidance Committee, as well as the results of a concurrent fact-finding effort conducted by the UCOP administration. Committee members interviewed the directors of the University’s two online graduate programs: UCI’s M.A.S. in Criminology, Law, and Society, and UCLA’s Online Masters of Science in Engineering. The Committee also conferred with the co-director of the Capital Area North Doctorate in Educational Leadership (CANDEL) program, a joint doctoral program between UC Davis and Sonoma State University that makes extensive use of remote instruction. The director of the UC Consortium for Language Learning and Teaching, which makes extensive use of remote instruction, was a member of the Committee.

The Committee also interviewed representatives from several constituencies external to the University of California, including faculty Senate leaders of the California Community College system, which, of the three segments of California’s public higher education system, makes the most use of remote and online instruction. The Committee interviewed participants in Britain’s Open University and a member of the panel overseeing the development of the online IDSVA Ph.D. in Visual Arts Theory and Criticism. The Committee was also informed by a substantial collection of notes from the ITWG’s interviews with online instruction experts at The [University System of Georgia](#), The [Ohio State University](#), [Pennsylvania State University](#), The [University of Wisconsin](#), [Carnegie Mellon University](#), The [University of Iowa](#), The [University of Minnesota](#), The [University of Michigan](#), The [University of Texas system](#), The [California State University system](#), and the Carnegie Foundation for the Advancement of Teaching.

³ Report of the Instructional Technology Workgroup of the Information Technology Guidance Committee, December 2006. http://www.universityofcalifornia.edu/itgc/focusareas/edutech/itgc_dec2006_itwg.pdf.

A significant body of literature on the efficacy of remote and online instruction, as well as on studies of multi-lingual and multi-modal literacy that analyze alternative learning models, is available to the academic community⁴. In addition, over the past few years, the Sloan Foundation has supported the development of remote and online curriculum through the dissemination of seed grants and the development of the “Sloan-C” Web portal⁵ that coordinates the effort and provides supporting materials. While the Committee reviewed as much of this material as feasible, it felt it was beyond its scope to perform an exhaustive analysis of the information available in the public domain. Fortuitously, a meta-analysis comparing the effectiveness of online and lecture-based instruction⁶, commissioned by the United State Department of Education and conducted by the SRI International, became available in June 2009. Although perhaps not quite as far-reaching in scope and rigor as the SRI study, a report⁷ on a synthetic study of the fiscal aspects of online instruction is to be found within a 2005 collection of essays on the cost of higher education initiated by the Lumina Foundation for Education. Within the University itself, a study⁸ funded by the Mellon Foundation, and carried out largely on the UC Davis campus, attempted to compare costs between online and traditional delivery of large-enrollment lower-division courses. All of these studies will be discussed in more detail below.

Finally, the eight regional public benefit corporations that accredit U.S. educational institutions, including the Western Association of Schools and Colleges (WASC) that oversees California institutions, have developed materials to guide their reviewers in assessing programs and institutions that make significant use of remote and online instruction. The Committee reviewed WASC’s guide⁹ to the development of distance learning curriculum and a document on best practices¹⁰ developed by the Higher Learning Commission of the North Central Association of Colleges and Schools, a collaboration of Midwestern accrediting bodies.

⁴ See, for example, the *Journal of Online Learning and Teaching*, <http://jolt.merlot.org/>.

⁵ Sloan-C: A Consortium of Institutions and Organizations Committed to Quality Online Education; <http://www.sloan-c.org/>

⁶ U.S. Department of Education Office of Planning, Evaluation, and Policy Development Policy and Program Studies Service: *Evolution of Evidence-Based Practices in Online Learning*, 2009; <http://www.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf>.

⁷ Carol A. Twigg, “Improving quality and reducing costs: The case for redesign”, in {Experts offer solutions to the college cost crisis}, Lumina Foundation for Education, 2005, http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/27/f5/56.pdf

⁸ Maher M., Sommer, B., Russell, G., Acredolo, C., and Matthews, H.R. (pending) "Moving from the Large Lecture Hall to an Online Course: Cost and Effect" submitted as an invited chapter in a book edited by Saul Fischer, Mellon Foundation, 2002. <http://learning.ucdavis.edu/Mellon/publications.html>

⁹ WASC Distance Learning Manual, <http://web.scc.losrios.edu/de/wasc>

¹⁰ “Good Practices for Electronically Offered Degree and Certificate Programs” http://www.ncahlc.org/download/Best_Pract_DEd.pdf

REMOTE AND ONLINE INSTRUCTION WITHIN THE UNIVERSITY OF CALIFORNIA

Information provided by campuses to the Special Committee and UCOP administrators suggest that the University of California makes significantly less use of remote and online instruction than the Higher Education community as a whole. As mentioned above, a Fall, 2007 survey¹¹ found that approximately 20% of U.S. college students took one or more courses online in that term, and that the participation in remote and online instruction continues to increase rapidly. No similar survey has been done for matriculated UC students, but the Committee's and administration's reviews of UC's remote and online offerings make it clear that the University supplies opportunities that can, at most, provide only a fraction of this rate of participation. This is not to say, however, that UC is deficient in this regard. The majority of remote and online instruction is provided by institutions with a primarily local scope, not by institutions with a mandate to serve statewide or national student populations. This is certainly the case in California, where the majority of remote and online offerings are found within the community college system. The Committee did not find evidence that UC significantly lags its peer, research-oriented institutions in the use of remote and online instruction. For the minority of comparable institutions that provide significant and visible bodies of remote and online instruction¹², the instruction offered tends to be geared more toward continuing education than toward their core degree-granting efforts.

While not yet prevalent throughout UC, the University's use of remote/online instruction is on the rise. The concurrent survey by UCOP administrators presented the following overview of the uses of remote/online instruction within the University¹³:

- Several campuses have invested considerably in online instruction to maintain and improve the quality of education, extend access, and generate additional revenues. While not uniform across campuses, this effort has produced pockets of expertise and capacity that are capable of supporting more widespread participation. Campuses that lead in the deployment of physical infrastructure for Web-based and broadcast instruction include UCSD and UCB, and to a lesser extent UCD and UCLA.
- In the undergraduate curriculum, notably in selected summer sessions, a number of "blended courses" (combining video recordings of lectures with real-time interaction with faculty and graduate student instructors) are offered. In addition, a small number of academic departments are offering or planning self-supporting online post-baccalaureate degrees.
- Two graduate programs - an M.A.S. in Criminology, Law, and Society at UCI and a Master's of Science in Engineering at UCLA - are offered exclusively online.
- Some distance learning courses are available from system-wide programs, notably University of California College Prep online, which has a dozen AP-level courses in a variety of subjects, and the Language Learning Consortium, a system-wide initiative that seeks to leverage the language resources of UC campuses to provide greater

¹¹ Allen and Seaman, 2008.

¹² MIT OpenCourseWare, <http://ocw.mit.edu/OcwWeb/web/home/home/index.htm>; University of Illinois Online, <http://www.online.uillinois.edu/>; UT TeleCampus <http://www.telecampus.utsystem.edu/>

¹³ Dan Greenstein, private communication

access to less commonly taught languages (such as Arabic and Punjabi) through distance learning programs.

- There are thousands of recorded lectures for hundreds of unique courses that are available via “podcasts”. While these archived materials appear to be quite popular, they are generally not used as a primary mode of instruction in Senate-approved curriculum.
- Distance learning is particularly well developed at selected University Extensions (UCB, UCI, and UCSB) where it is used for as many as 500 courses. Most of this curriculum is separate, however, from the core degree-granting activity of the University, and is not subject to Senate approval.

In addition, the Senates of two Divisions have developed policy that define and regulate remote and online instruction. In June 2007, the San Diego Division approved a policy¹⁴ that largely prohibits courses for which archival materials provide the predominate mode of instruction (“asynchronous” instruction), and provides relatively specific requirements for the nature of the real-time interaction between students and instructors for Web-based courses. The Berkeley Committee on Course of Instruction (COCI)¹⁵ requires special consideration for any class for which less than 1/3 of the nominal workload includes face-to-face contact with the instructor, and provides a list of supplemental questions for the proponents of such courses to address when requesting approval from COCI.

UC instructors with experience in remote and online instruction at the undergraduate level stressed the need for specific skills in mediating discussions between students, and in guiding dialog between students and instructors. These instructors generally felt that effective instruction required substantial attention to individuals' participation in the course, and that, correspondingly, it would be difficult to use remote and online instruction as a means to manage an increasing student-to-faculty ratio. Explicit training in techniques specific to remote and online instruction was also cited as a necessary component of the preparation of instructors.

Although UC's two online graduate programs are relatively new (the most established of these, UCI's M.A.S. in Criminology, Law and Society, has graduated four cohorts), discussions with leading faculty from each program give confidence that they are on their way to becoming viable, high-quality programs. One of them (the UCLA Online Master's in Engineering) already seems to be garnering a notable degree of international recognition. Their directors, as well as the Capital Area North Doctorate in Educational Leadership (CANDEL) co-director, offered a number of perspectives that the Committee found to be of interest, touching on similar themes to those identified by instructors with experience in remote and online instruction at the undergraduate level. Peer-to-peer contact was called out by all programs as important to the students' learning process – for the entire course of instruction in the case of the criminology M.A.S. and CANDEL Ed.D, and for a significant portion (but not the entire program) in the case of the engineering Master's. All programs found this aspect of their online pedagogy particularly challenging, requiring significant skill to foster and direct without controlling the discussion to a degree that would prohibit students from working through their mistakes and misconceptions on their own. Even more than the didactic component of the instruction, success in fostering

¹⁴ <http://www-senate.ucsd.edu/committees/CEP/PolicyChanges/DistanceAndOnlineInstruction.htm>

¹⁵ <http://academic-senate.berkeley.edu/committees/coci/handbook2.html#2-5>

successful peer-to-peer interactions requires a significant period of development through trial and error, and presents the greatest challenge to faculty teaching in the program for the first time. In the case of the M.A.S., it was found that an intensive ten-day face-to-face meeting of each cohort at the beginning of the program builds peer-to-peer relations that are very helpful in advancing the quality and tenor of subsequent online communication between the students, and fosters peer-to-peer interactions of a quality similar to that of residential programs.

The directors of these programs felt that maintaining an appropriate student-to-faculty ratio was essential to effective instruction. In the case of the M.A.S. program, an upper limit of 25:1 was cited, and although no concrete figure was cited for the other two programs, class sizes are in the same range as for the M.A.S. program. For the M.A.S., the level-of-effort seems to be sustainable: the program is self-supporting, and so far seems to be able to prosper within the limits of its own income. The engineering Master's program is finding that it requires a degree of faculty overload time to meet its curricular obligations while maintaining a high quality of instruction, and is working to develop a sustainable practice for meeting this commitment.

In the case of the engineering Master's, the existence of a parallel program for students with access to the campus allows a comparison between the two groups of students. Experience based on the few years that the online program has been offered suggest that the online students have a somewhat harder time, and are somewhat less likely to complete the degree requirements, than their on-campus counterparts, although factors other than instructional setting (time since last degree, preparation, workplace demands) may contribute to the difference. The director acknowledged that there is an incentive to lower standards for online students to improve their success rate and maintain the income stream from their enrollments, but felt that such differential standards were inappropriate and that online programs should be structured to avoid them.

The program directors extolled the promise of online instruction to increase access for students who do not have access to traditional on-campus programs (for example, one cohort of M.A.S. students included a member of the Armed Forces on active duty in Iraq). The director of the M.A.S. program cited greater success in engaging students and overseeing their interactions with faculty and peers than for conventional instruction, and deeper insights into students' work that allowed for a deeper and more reliable assessment of their progress.

Finally, it should be noted that the Berkeley campus is leading the international "Opencast Matterhorn" Open Courseware (OCW) initiative, which proposes to systematize and unify the tools needed to record and post academic content. This initiative is part of a larger OCW movement that has been sparked, in large part, by the Massachusetts Institute of Technology's effort to make syllabi, lecture notes, assignments, and exams from virtually all of its courses available online¹⁶, and has involved a notable participation by the Irvine campus. Visits to OCW websites are now approaching 100 million, and OCW materials are used by faculty to enhance and diversify their instructional methodology, and as study aids by students enrolled in universities throughout the world. Thus, the Berkeley initiative may help to support the push to make academic content freely and openly available, which may in turn improve the quality and efficacy of online course offerings.

¹⁶ <http://ocw.mit.edu/OcwWeb/web/about/history/index.htm>

COMMENTS ON THE USE OF REMOTE AND ONLINE INSTRUCTION OUTSIDE OF THE UNIVERSITY OF CALIFORNIA

Discussions with faculty Senate leaders of the California community college (CCC) system confirmed that remote and online instruction has become firmly integrated into the core, degree-granting activity of most of the 73 largely independent CCC districts. Nonetheless, throughout the CCC system, 80% of students enrolled in online courses are also enrolled in traditional, face-to-face instruction. Online instruction is more prevalent for high-demand classes than for specialized classes. However, Title 5 of the California Code of Regulations¹⁷ mandates minimum standards of student/faculty interaction for CCC-sponsored courses that preclude large-enrollment classes for either face-to-face or online instruction. The CCC has found enough faculty interest in online instruction that it does not require individual faculty members to teach online courses if they feel their teaching style is better suited to face-to-face instruction.

The approval process for CCC-sponsored courses largely parallels that of the UC system. New course proposals are reviewed by Senate-appointed faculty committees, with administrators playing only advisory roles. Once a course is approved, it may be taught by any qualified instructor without further review, with one exception: if a particular course, as defined by its pre-approved curricular content, is to be taught with significant recourse to online materials, the instructor must submit an “addendum” for approval by the Senate, which must separately approve each such section of a course that incorporates online instruction. The content of the addendum varies from district to district, but addenda generally require individual instructors intending to incorporate online instruction to describe the nature of the online content, how it will meet Title 5 and disability access¹⁸ mandates, how it will offer student/faculty “contact time” (however that is realized in the chosen online format) commensurate with the unit value of the course, and how it will act to promote students’ achievement of learning objectives.

Consistent with its composition as 73 largely independent districts, the CCC system has no centrally supported technical or pedagogical training function. Some districts appoint and support experienced faculty to serve as a resource to faculty incorporating online content in their course sections. Districts also make use of training capabilities found in commercial curricular support software such as WebCT and Blackboard. A significant body of system-wide guidelines, delineated in Title 5 of the California Code of Regulations, also provides guidance to instructors engaging in online instruction.

Discussions with faculty who have participated in Britain’s Open University – perhaps the most established online educational institution in the world – emphasized several themes common to those raised in discussions with the California higher education community: class sizes are small (similar to those of the CCC system); curricular and degree content are approved and overseen by leading faculty; and courses are approved for five-year periods, after which the course must be proposed anew. The primary motivation for the Open University initiative was to increase access to University-level education for people living in the British Isles, including those in

¹⁷ Title 5 Regulations on Distance Education, http://www.ccccurriculum.info/Curriculum/RegulationsGuidelines/Regulations_DistanceEd.htm 55211: Instructor Contact. (2008 update at http://www.cccco.edu/Portals/4/de_guidelines_081408.doc).

¹⁸ Distance Education: Access Guidelines for Students with Disabilities, http://www.hcttu.net/publications/guidelines/distance_ed/disted.htm

relatively inaccessible locations, as well as those unable to accommodate the hours of traditional University instruction. The Committee saw no evidence that the Open University was operated to achieve cost efficiencies; the level of resources employed to educate Open University students seemed commensurate with that of conventional University instruction. On the other hand, the Open University does not appear to view the engagement of students in leading-edge research as one of its primary goals.

Online research and interviews with instructional technology experts at research-oriented university systems confirmed that in general, UC neither leads nor lags similar institutions with respect to the use of remote and online instruction. Through the course of its research, the Committee identified only four comparable domestic institutions that have initiated substantial, coordinated programs that offer core instruction in remote and online formats.

The largest of these, UMassOnline, enrolls approximately 35,000 students, and offers approximately 40 online degrees, fairly evenly split between Bachelor's and Master's, and including one professional practice doctorate (Doctorate of Nursing Practice). Academic content is developed and overseen by the regular faculty of the University of Massachusetts system. A similar initiative from The Pennsylvania State University system offers approximately 25 Bachelor's and Master's degrees. While UMassOnline appears to be geared to a national market, the Penn State initiative arose from an effort to further its model of serving the State via a single campus dispersed among numerous geographical locations, and finds itself in some degree of competition for online enrollments with the State's Community College system.

Programs with similar focus but somewhat less breadth are underway at the University Systems of Illinois (Illinois Global Campus) and Texas (TeleCampus). Motivated by an interest in improving completion rates and offering flexible study schedules for returning students, the University of Texas TeleCampus offers approximately 20 courses from the core undergraduate curriculum, five undergraduate "completion" programs (upper division work leading to a Bachelor's degree), and ten graduate degrees, half geared towards careers in teaching. The flagship campus (Austin) is not deeply engaged in developing or providing TeleCampus curriculum. The Illinois Global Campus currently offers five degree programs, developed with little participation of the regular faculty of the Illinois system. Similarly to the University of Massachusetts program, the Illinois Global Campus sees itself as an institution with national scope. However, its hope to expand well beyond its current limited offerings is meeting competition from private, for-profit institutions as well as from the UMassOnline program. In addition, both the Illinois¹⁹ and Texas²⁰ programs face significant fiscal challenges as subsidies from the University are withdrawn.

A survey of degree programs offered by these four initiatives reveals that many are focused on professional and technical preparation, with a large number geared towards business administration and K-12 education. In particular, none of the Bachelor's degrees programs offered by these four initiatives is in the natural sciences (several cross-disciplinary natural science Bachelor's degrees are available to British citizens through Britain's Open University).

¹⁹ <http://chronicle.com/article/The-Global-Campus-Meets-a/35642>

²⁰ <http://chronicle.com/article/Online-Education-at-U-of/47261>

HIGHLIGHTS FROM ACADEMIC STUDIES

A recent meta-analysis²¹ commissioned by the U.S. Department of Education and conducted by SRI International employed a statistical analysis to look for systematic differences in outcomes between face-to-face and online instruction from 46 separate studies, of which 41 involved post-secondary level education. The meta-analysis divided the individual studies into two categories: those employing purely online instruction and those using “blended” models that augment face-to-face instruction with various online components. Each of the contributing studies also evaluated the effectiveness, for the same curricular content, of instruction based solely on traditional face-to-face interactions between students and faculty, allowing separate comparisons between traditional and online education for the pure and blended categories, as well as for the combination of the two categories. The contributing studies divided approximately evenly between the pure and blended categories, and with the exception of five K-12 class studies, also divided approximately evenly between core University curriculum and continuing education. Although it was difficult to discern with certainty, it appears that no more than 5 of the 46 studies, and probably significantly fewer, were conducted for large-enrollment lower-division classes.

The meta-analysis limited its examination of educational outcomes to purely objective measures of student performance. Differences in performance were characterized in terms of the mean “effect size” α , defined by the authors as “the difference between the mean for the treatment group and the mean for the control group, divided by the pooled standard deviation”. According to the authors, $|\alpha| > 0.2$ indicates a notable net effect, while $|\alpha| > 0.5$ indicates a strong differentiation between the treatment and control group. The authors chose the sign of α so that positive values indicated stronger outcomes for online relative to traditional instruction.

Combining both categories (pure and blended) of online instruction, the authors found a mean effect size of $\alpha = +0.24$, from which they estimated a statistical probability of 99% that, as measured by the study’s outcomes, students in classes making use of online instruction perform better in this set of courses than students learning the same material via purely face-to-face interaction with faculty. For purely online courses, the mean effect size was measured to be $\alpha = +0.14$, which is not considered to be a definitive difference. Nonetheless, the authors estimated only a 5% statistical likelihood that students would perform better in these classes when taught by face-to-face instruction. The most significant effect was observed when the analysis was restricted to the studies involving blended instruction. This category of instruction exhibited a mean effect size of $\alpha = +0.35$, and a statistical probability of 99.9% that blended instruction is more effective than face-to-face instruction for these set of courses. However, the authors noted that instructor effort was significantly greater in the blended offerings than in the corresponding face-to-face offerings; although it was difficult to control for this difference in effort, the authors felt that a fairly sizeable positive effect would remain were they able to do so.

The Committee also reviewed a broad-based study of the fiscal effectiveness of online education. Supported by an \$8.8 million grant from the Pew Charitable Trusts, the National Center for

²¹ U.S. Department of Education Office of Planning, Evaluation, and Policy Development Policy and Program Studies Service: *Evolution of Evidence-Based Practices in Online Learning*, 2009; <http://www.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf>.

Academic Transformation (NCAT) funded 30 grant requests, from institutions across the spectrum of higher education, to explore the efficacy of curriculum redesigned to incorporate instructional technology. By the Committee's count, 13 of the 30 participating institutions were research universities with goals and objectives similar to those of the University of California. The Committee found this study to be particularly interesting in that it specifically targeted the large-enrollment "service classes" that constitute a large fraction of college and university enrollments.

Overseen by independent experts, each funded institution redesigned a selected core lower-division course, established objective criteria for evaluating costs and student outcomes, and compared the redesigned courses to traditional classes incorporating the same curricular content. Course selections were somewhat more concentrated in math and science (18 of 30) than in humanities and social science (six each).

The findings of the study are summarized succinctly in the report:

All 30 institutions reduced costs by an average of 37 percent, with a range of 15 percent to 77 percent. Collectively, the 30 redesigned courses affect more than 50,000 students nationwide and produce a savings of \$3.1 million in operating expenses each year.²²

None of the institutions observed a degradation of student outcomes in the redesigned classes, while some observed significant improvement, and retention rates were generally observed to be greater than those of the traditional-format classes.

Within the UC system itself, the Mellon Project at UC²³ attempted to determine if large-enrollment lower-division online classes can be developed and delivered as economically as their traditional classroom counterparts. The Davis/Mellon project compared delivery costs and student outcomes for large-enrollment classes in Art History, Anthropology, Biology, Food Science, Psychology, Statistics, and Viticulture. As for the NCAT study, the authors were careful to distinguish and amortize the cost of developing the courses, as well as the ongoing cost of delivering the instruction. Overall, the authors observed a marginally significant cost savings for online instruction, with no statistically significant difference in student outcomes. While participating students registered a slight preference for the offline format, the authors noted that the study involved students who live on campus, and are accustomed to traditional forms of delivery. A similar project at UC Berkeley²⁴, also funded by the Mellon Foundation, found evidence that the use of elements of online instruction could significantly reduce the cost of delivering UC Berkeley's Chemistry 1A class, which is taken by approximately half of students enrolled on the campus.

²² Twigg, 2005

²³ Maher M., Sommer, B., Russell, G., Acredolo, C., and Matthews, H.R., 2002

²⁴ see Sloan and Mellon Material on committee website

SYNTHESIS OF THE COMMITTEE'S RESEARCH

The Committee sees no evidence that relative to its peer institutions, the University of California leads or lags the norm in its use of remote/online instruction and its application of instructional technology. UC offers a demonstrably smaller fraction of remote/online courses and programs than does the U.S. higher education community as a whole, but this proportion seems consistent with that of institutions with selective admissions, a commitment to research and the advancement of knowledge, and a student population that is committed to the timely completion of challenging bachelors and graduate degree programs. There are several prominent University systems (Massachusetts, Pennsylvania State, Illinois and Texas) with visible units dedicated to providing remote instruction to off-campus students through the use of instructional technology, while with the exceptions of the Irvine and Berkeley campus's Open Courseware initiatives, the University of California has no similarly concentrated effort. However, the Committee has not found these efforts to be well-integrated into the flagship, research-oriented components of these institutions. Thus, while instructional technology does seem to have shifted the culture of pedagogy in other sectors of higher education (most notably at the community college level), the Committee saw less evidence that instructional technology had taken such deep root at the University's comparison institutions. Furthermore, UC has several innovative online programs (the M.A.S. in Criminology, Law, and Society, the online Master's of Engineering, and the UC Language Consortium) that, although small in number, are integrated into the core effort of the University and provide models for other institutions that aspire to deepen their engagement with remote education.

On the other hand, the Committee's research suggests that advancing technology may offer a significant opportunity that UC has yet to exploit, although it is well-positioned to do so. While the Department of Education meta-analysis found the hypothesis that online instruction is more effective than traditional instruction, per hour of instructor time, to be only marginally significant, the Committee feels that this study provides a degree of evidence that online instructional formats, when executed skillfully, can be effective. Beyond this, the NCAT study suggests that for commensurate performance on objective student outcomes, instructional technology can be cost effective when applied to the instruction of large-enrollment lower-division classes. The Committee expressed caution, however, in extending this conclusion categorically, noting that courses that benefit from subjective critical analysis, creative argument, and free-flowing group discussion might not have been appropriately represented in the study.

Accordingly, the Committee feels it appropriate for the Academic Senate to promote the University's continued exploration and application of remote and online instruction, both as a means to enhance access and to improve educational quality and effectiveness. This recommendation, which will be presented in more detail below, does not come without qualification. In particular, the Committee does not believe that the wide-scale substitution of remote and online instruction for traditional modes of delivery, with a corresponding weakening of the residential campus, would be consistent with the University's mission. In our view, there are areas for which the efficacy of remote and online education has yet to be demonstrated. The Committee believes that there are essential aspects of instruction, and education more generally, that are difficult to assess rigorously. In particular, while modern society requires a well-trained workforce that can absorb and apply the practices of their disciplines, the nature of education demanded by society goes beyond mere training within respective disciplines. Beyond mere competence, society demands that education provide opportunities to achieve *mastery* – creative,

synthetic, analytic, and evaluative capability at all levels within and across the disciplines of the arts, humanities, sciences, and the professions.

Discussions of the difference between competence and mastery, and the associated aspects of cognitive and learning science, are numerous within the academic literature, and are synthesized in a report²⁵ from the National Research Council (NRC), which applies the term “expert” to an individual attaining the highest levels of mastery in a given field. Among the key characteristics of experts’ knowledge the NRC cites the following:

- Experts have acquired a great deal of content knowledge that is organized in ways that reflect a deep understanding of their subject matter.
- Experts’ knowledge cannot be reduced to sets of isolated facts or propositions but, instead, reflects contexts of applicability: that is, the knowledge is “conditionalized” on a set of circumstances.
- Experts have varying levels of flexibility in their approach to new situations.

The report also cites “metacognition” – learners’ self-critical “ability to predict their performances on various tasks and to monitor their current levels of mastery and understanding” – as an intellectual capacity correlated with the attainment of synthetic and evaluative mastery of an intellectual domain. Outcomes such as these are difficult to codify into objective student achievement metrics, and the Committee’s sense is that the capability of remote and online instruction to produce intellectual leaders remains untested.

At the core of the modern research university’s educational mission lies the stimulation of intellectual curiosity, the nurturing of critical thinking, the inculcation of research skills through the immersion and participation in apprentice/mentor and peer/peer dialogue, and the development of community and global values. The mark of true intellectual leadership encompasses not only the capability to answer questions put forward by others, but also the ability to know which questions to pose and which directions to take to advance knowledge. The Committee sees no evidence within the current academic literature, or the experiences of other institutions of higher education, that these qualities can be effectively and appropriately cultivated outside the framework of face-to-face interaction between students and their instructors and mentors. Thus, the extent to which remote and online instruction can substitute for this traditionally-oriented learning experience is not clear to the Committee. Accordingly, the Committee recommends that the implementation of remote and online instruction be done in a deliberate and measured way that respects the traditional learning environment that, in the Committee’s experience, is essential to the University’s educational mission.

²⁵ How People Learn: Brain, Mind, Experience, and School, John D. Bransford, Ann L. Brown, and Rodney R. Cocking, editors, *National Academy Press*, Washington, 1999; http://www.nap.edu/openbook.php?record_id=6160

MULTI-CAMPUS CURRICULAR OFFERINGS

Traditionally, the campuses of the University of California system have operated as separate providers of academic content, with each campus's Academic Senate wielding autonomous authority over the content of its programs and curriculum. However, existing Senate policies stipulate that UC-based distance learning courses can be taken for credit from campuses other than a student's home campus. The Academic Assembly passed [Regulation 544](#) in 2004, giving UC students the right to enroll simultaneously in a course or set of courses at their home campus and another UC campus, with the intent of helping students take advantage of distance learning opportunities within the UC system, and of providing a mechanism for transfer of credit between campuses. UCEP and CCGA have the authority to approve UC undergraduate or graduate courses as system-wide courses, further streamlining access to courses from multiple campuses. UCEP has developed a set of procedures for approving system-wide courses and is working on a with the administration on a process for getting them listed in campus catalogs; however the procedures are untested, and an easy, timely, and effective means of making students aware of both system-wide courses and campus courses available for remote and online instruction offerings is not yet available.

While procedures have been established on each campus to handle enrollment in courses at other campuses, the procedures and paperwork are cumbersome and require an effort from both students and administrative staff that inhibits their use. This is especially true for graduate students, who must get approval to take courses from other campuses from both the registrar and campus Graduate Division. Enrollments in remote and online course offerings are likely to increase significantly only if students' awareness of remote and online offerings can be increased, and enrollment procedures can be made more transparent. Current procedures for enrollment and reporting fall short of what the Committee feels to be the intent of Regulation 544, which would allow a student would be able to enroll online in a distance-learning offering from another campus during their home campus enrollment period, and engage a process of recording enrollment and grades that is transparent to the student and administrative staff.

Even with such a system in place, though, the language of Regulation 544 holds the student responsible for securing approval for a non-home-campus course to satisfy GE or major requirements. Were participation in distance learning to increase significantly, this would become an onerous burden for both students and local departmental and colleges. The Special Committee feels that mechanisms should be developed to facilitate this process. For example, if a system-wide or online course at another campus regularly enrolls students from specific majors at other campuses, those majors might establish a blanket agreement for acceptance of the course for their students. Similarly, core online curriculum might be set up by a single campus, or through a collaboration of several campuses, under system-wide consultation with departments that will make use of that curriculum. While most of these instances would require specific evaluation and approval by college and major staff, the Senate and administration should be able to develop procedures to facilitate the approval process. Articulation with the California community college (CCC) system provides a case in point: each UC campus has articulation officers who engineer articulation agreements between UC and CCC departments. In addition, the recent UC-wide streamlining project has provided online documentation of campus-to-

campus similarities and differences in major requirements for the most popular CCC transfer majors²⁶.

SUMMARY OF OBSERVATIONS AND RECOMMENDATIONS TO BE CONSIDERED BY THE DIVISIONAL SENATES

The Committee has explored the use of remote and online instruction both within and outside of the University of California. It has also reviewed two synthetic analyses of the efficacy of remote and online instruction, and considered these in the light of the current understanding of how learners acquire knowledge and develop expertise. The Committee concludes that

Instructional technology offers a significant potential to increase learning effectiveness and access that the University has yet to fully exploit. The Academic Senate should support faculty and departments interested in the development of remote and online curriculum and programs consistent with the mission of the University. The faculty's authority to develop and implement new approaches to instruction lies within the mandate of academic freedom.

On the other hand, the University must remain committed to the continued improvement of its quality and reputation irrespective of the mode of delivery of instruction. The Committee emphasizes that Divisional Senates should work to ensure that the quality of instruction and education provided by courses and programs making use of remote and online instruction is commensurate with that of other forms of instruction:

The Academic Senate should apply identical standards of quality to the delivery of instruction and the evaluation of students, irrespective of the mode of delivery of instruction and the proximity of the student to campus.

While the Senate has taken action to pave the way for intercampus enrollments (cf. SR 544), significant impediments to the utilization of remote and online curricular offerings remain:

The Committee recommends that the Academic Senate request that local and system-wide UC administrators work together to fully implement Senate Regulation 544, which gives students the right to enroll simultaneously in a course or set of courses at their campus and another UC campus, by developing a unified approach that codifies and simplifies the processes of advertising, registering for, and reporting grades for intercampus curricular offerings. The Committee also recommends that the Academic Senate and the Administration work together to facilitate students' attainment of general education or major credit from intercampus enrollments.

The Divisions' responses to the 2007 *Dialectic on the Use of Remote and Online Instruction for the Delivery of University Curriculum* showed a significant divergence of outlook with respect to remote and online instruction. While the Special Committee hopes its work will further inform the discourse within the Divisions, we understand that differences of approach, motivated by legitimate differences in educational philosophy, are likely to remain. Given this, and given the general applicability of existing system-wide Senate policy and committee structure, the Committee saw no aspects of system-wide policy or regulation that warranted modification:

²⁶ <http://uctransfer.universityofcalifornia.edu/>

The Committee recommends no changes to system-wide Senate policy or regulation.

In particular, the Committee believes that the Senate's committee structure for reviewing course and program proposals is appropriate for curriculum that makes significant use of remote and online instruction. The Committee notes that UC's Divisional Senate course approval procedures are similar to those of the California community college (CCC) system, which has already made great strides in integrating remote and online instruction into its core degree-granting effort. Similarly to Academic Senate leaders in the CCC system, the Committee notes that the delivery of remote and online instruction can raise concerns independent of those associated with more familiar face-to-face delivery modes:

The Committee recommends that the appropriate Divisional Senate committees develop a list of supplemental points to be addressed by faculty requesting approval of new courses and programs with a significant component of remote or online instruction.

A list of supplemental points recommended by the Committee is to be found in the next section of this report. We envision that for each point included in the supplemental request from the appropriate Senate committee, proponents would discuss their corresponding plan for ensuring the quality of instruction, or explain why the point doesn't apply to the proposed course or program.

The UC Senate course approval process focuses on course content and assessment rubrics rather than the qualifications of individual instructors. As delineated by Senate Regulation 750, the right to instruct UC classes accrues automatically to a specified set of titles held by UC faculty and instructors, and no formal instructional training or explicit prior experience need be required for the awarding of these titles. On the other hand, many faculty are not conversant in the additional skills required of the delivery of high-quality remote and online instruction, and the Committee notes that some institutions, most notably the CCC system, require approval of individual instructors for remote/online classes. Furthermore, many institutions that do not offer explicit training for face-to-face instruction do provide training and support for those faculty engaged in remote and online instruction. Members of the Committee felt it important that such support be available to UC instructors engaged in remote and online instruction, but were divided in their opinion with respect to the approval of individual instructors for remote and online courses. Accordingly, the Committee recommends that

Inclusion of remote and online instruction within the UC curriculum should be accompanied by appropriate training opportunities for participating faculty. UC Academic Senate Divisions should consider the value of approving individual instructors who teach courses with significant remote or online content.

The NCAT study of fiscal effectiveness suggests that increasing the use of online instruction, particularly for large lower-division courses, may offer fiscal efficiencies that are attractive to the University, particularly as it faces what may be the most severe fiscal challenge since its founding. The Committee notes that faculty hiring rates are likely to remain low for several years, without a commensurate reduction in student enrollments. If so, increasing the use of online instruction in the core curriculum of the University may be an important component of managing the resulting *de facto* dilution of the student-to-faculty ratio. On the other hand, as

discussed above, many UC instructors involved with remote and online instruction question whether it can be used effectively to achieve additional efficiencies in University instruction. While it is thus still an open question whether remote and online instruction would benefit the University through economies of scale, the Committee nonetheless feels that more should be done to explore this opportunity:

The Committee recommends that a joint Administrative/Senate task force be convened to explore the benefits and disadvantages of increasing the use of online instruction in the core curriculum of the University.

More specifically, the Special Committee recommends that the proposed joint task force identify one or several large-enrollment courses that are taught in similar form across all or most campuses, and initiate and seek funding for a pilot or proof-of-principle program to develop University-wide online offerings of these courses. The task force would focus on courses for which a majority of departments offering the course express interest in a University-wide offering, and have faculty interested in contributing to the development and implementation of the course. Start-up funding for developing the online course offering would be provided by the central Administration; such funding would be awarded competitively if the demand for start-up funding exceeds allocation. Although, as discussed above, SR544 requires that only one Divisional Senate approve such system-wide offerings, the Special Committee recommends that course proposals for courses developed within the pilot program be reviewed and approved simultaneously by the Divisional Senates of all participating campuses, and incorporate approval for meeting general education, prerequisite, and/or major requirements on each campus. The task force would also work to remove the impediments to multi-campus curricular offerings cited in the previous section. If created, the task force should stand long enough to monitor the development and implementation of the pilot program, produce a report on the impact of the program on the quality, accessibility, and cost of the offered curriculum, and recommend next steps to the University. The Committee notes that the development of such University-wide curriculum is an area for which the configuration of the University as ten Divisions under a single institutional umbrella may offer opportunities not available were the ten campuses completely autonomous.

In developing prospective University-wide lower-division offerings, the use of material (recorded lectures, online assignments, etc.) developed by external academic or commercial institutions might be considered, just as textbooks from authors outside the University are commonly used in traditional face-to-face instructional formats. It may also be beneficial to consult, and perhaps even collaborate, with corresponding departments in the CCC system, which have already developed significant online content in many lower-division subject areas, and which are also, by the mandate of the Master Plan, articulating partners with the University. Discussion with current CCC Senate leaders suggested substantial interest in such cooperation.

The Special Committee notes that it may be most beneficial for a joint task force to focus initially on specific large-enrollment lower-division classes. The NCAT study provides evidence that, with appropriate effort, the University may benefit from online instruction at this level, and from a developing body of experience across the nation. In addition, though, the Committee suggests that the protection of student-to-faculty ratios in upper-division and graduate study, at the carefully-managed cost of diluting them for certain areas of lower-division study, may be a sensible approach to upholding the mandate of the Master Plan. It is more advanced study, and

the development of research-oriented mentoring relationships between advanced students and faculty, that are the unique added value of the research-oriented component of the State's higher education system, and most directly exploit the particular expertise and background of the University's faculty.

ISSUES SPECIFIC TO THE DELIVERY OF REMOTE/ONLINE INSTRUCTION

In its research into the uses of remote and online curriculum both within and outside of the University, the Special Committee has identified the following as specific points of concern relating to the delivery of remote and online instruction. The Committee encourages each Division of the Senate to consider these points as it develops its procedures for reviewing courses and programs with significant remote and/or online content.

- Does the faculty proponent have the appropriate expertise for the proposed mode of delivery, and is there an appropriate means to train faculty not familiar with the particular form of delivery being proposed?
- Is the rationale for selecting the primary mode of instruction and the primary instructional materials clear and compelling?
- Are the standards of the proposed instruction and evaluation commensurate with traditional instruction? Are expectations for students' performance equivalent to those for students pursuing traditional or physically resident study?
- Are the proposed modes of assessment both fair and unlikely to be compromised by academic dishonesty?
- Have appropriate modes of student/instructor interaction been identified, and are they likely to be successful? This consideration should include the role of teaching assistants, if applicable.
- Have appropriate modes of peer-to-peer interaction been identified, and are they likely to be successful?
- Is adequate technical support available for both students and faculty? Is the level of accessibility of required technology great enough to avoid disadvantaging those with lesser means?
- Are appropriate channels for student feedback to the instructor and sponsoring unit available?
- Is there appropriate access to Library and similar campus-wide or University-wide resources?
- Does the proposal fully recognize the amount of faculty time that will be required to develop, train for, and deliver the proposed course or program of instruction?

RESIDENCY

Although there are a number of system-wide Senate regulations relating to residency, only one (SR610) provides guidance as to the nature of residency. This regulation states that

Residence in any regular term is validated by a program of courses or other exercises approved by the Faculty of a student's college or school. For undergraduates this shall be at least six units of resident courses of instruction. Graduate students validate residence with programs of instruction or research approved by the appropriate Graduate Council.

In the reading of the Special Committee, this regulation defines residency in terms of enrollment in University-sponsored, Senate-approved curriculum, and not in terms of presence at any University facility. Thus, it appears to the Committee that SR610 places no restriction other than Senate approval on enrollment in remote and online courses and programs, and on the use of such curriculum to satisfy requirements for University degrees, including those related to residency. The Committee acknowledges, however, that there may be some ambiguity in this interpretation, and thus would be interested in a reading of this regulation by the University Committee on Rules and Jurisdiction (UCRJ). Should UCRJ concur with this interpretation, the Committee would recommend no changes to existing Senate regulation relating to residency. Should this not be the reading of UCRJ, however, the Committee would encourage the Academic Council to propose an amendment to the language of SR610 that would definitively establish this characterization of residency:

The Committee recommends that the Academic Council direct UCRJ to review the language of SR610, and advise the Senate as to whether SR610 admits resident credit for any course approved by the appropriate Divisional Committee, regardless of the mode or location of delivery. Should UCRJ find this not to be the case, the Committee recommends that the Academic Council propose an amendment to SR610 that would engender this characterization of residency.

SUMMARY AND CONCLUSIONS

The Special Committee on Remote and Online Instruction and Residency finds that while the University of California uses remote and online instructional to a lesser degree than the U.S. higher education community as a whole, its use is largely commensurate with that of its peer research-oriented institutions. Nonetheless, academic studies suggest that increasing the use of remote and online instruction, in appropriate context, may offer opportunities to improve the quality of University-sponsored instruction and increase access to University programs and curriculum. The Committee encourages the Senate to support appropriately conceived initiatives to increase the use of remote and online instruction as a means to meet these goals. However, the Committee also cautions that remote and online delivery modes can raise concerns independent of those associated with more familiar face-to-face delivery modes, and recommends that Senate oversight bodies be aware of these concerns as they evaluate and approve curriculum and programs with significant remote and online content.

Academic studies also suggest that, in certain contexts and subject areas, online instruction may allow for a more efficient use of University resources than traditional face-to-face instruction.

This possibility may prove attractive to departments and other academic units as they respond to deepening budgetary exigencies. The Special Committee acknowledges the value of potential cost savings, but cautions that start-up costs for remote and online courses can be daunting, and that it is unclear that the widespread adoption of UC-quality remote and online instruction could actually provide significant economies of scale. Attempts to realize such savings should be done with careful oversight from both the Senate and Administration. To this end, the Committee recommends the development of joint Senate/Administrative proof-of-principle initiative that would orchestrate the offering of one or several large-enrollment courses through a University-wide online format. Such a class or classes would be developed and sponsored by departments with an interest in exploring the benefits and disadvantages of such universal online curriculum; no department without an express interest in participating would be asked to do so. In carrying out this initiative, the joint Senate/Administrative task force would also work to redress existing impediments to multi-campus curricular offerings outlined above.

Finally, the Special Committee finds that existing formal Senate regulation provides an adequate framework for the approval and oversight of evolving modes of delivery of University curriculum and programs, and an appropriately flexible description of residency. In this light, the Committee recommends no changes to the existing body of Academic Senate regulation.

RESOURCES

In carrying out its research, the Special Committee identified numerous sources of information relating to remote and online instruction and its application to higher education; most of these resources are found in references to material presented in the sections above. Several of these resources, however, are of particular value to those developing or overseeing curriculum that makes significant use of remote or online delivery. Best practices, derived from the collective experience of much of the higher education community, are available from the North Central Association of Colleges and Schools²⁷ and Sloan-C WEB portal.²⁸ In addition, the Western Association of Schools and Colleges (WASC) has made available a manual for those making use of remote and online delivery of university instruction²⁹.

²⁷ “Good Practices for Electronically Offered Degree and Certificate Programs”
http://www.ncahlc.org/download/Best_Pract_DEd.pdf

²⁸ Sloan-C: A Consortium of Institutions and Organizations Committed to Quality Online Education;
<http://www.sloan-c.org/>

²⁹ WASC Distance Learning Manual, <http://web.scc.losrios.edu/de/wasc>

Appendix I: Special Committee Roster

Special Academic Senate Committee on Remote and Online Instruction and Residency

Members:

Bruce Schumm (Chair)

Professor of Physics
UC Santa Cruz

Robert Blake

Director, UC Consortium for
Language, Learning and Teaching
UC Davis

Farid Chehab

Professor of Laboratory Medicine
UC San Francisco
Chair, Coordinating Committee on
Graduate Affairs

Kris Gutierrez

Professor of Education
UC Los Angeles

Michael Leon

Professor of Neurobiology and
Behavior and Associate Dean,
School of Biological Sciences,
UC Irvine

Peter Loomer

Professor of Orofacial Sciences
UC San Francisco

Lisa Naugle

Professor of Dance
UC Irvine
Chair, University Committee on
Computing and Communications

Robert Powell

Professor of Chemical Engineering
and Divisional Senate Chair,
UC Davis

Gabrielle Wienhausen

Professor of Biological Sciences
and Associate Dean for Education,
Division of Biological Sciences,
UC San Diego

Keith Williams

Professor of Biology
UC Davis
Chair, University Committee on
Educational Policy

Linda Williams

Professor of Film Studies
UC Berkeley

Staff:

Michael LaBriola

Senate Analyst

Appendix II: Memo from CCGA, UCEP, and UCCC

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COORDINATING COMMITTEE ON GRADUATE AFFAIRS (CCGA)
Bruce Schumm, Chair
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Academic Senate
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July 8, 2008

**MICHAEL T. BROWN, CHAIR
ACADEMIC COUNCIL**

RE: Formation of a Special Senate Committee on Remote and Online Instruction

Dear Michael:

Enclosed is a memorandum from CCGA, UCEP and UCCC requesting the formation of a Special Committee of the Academic Senate to resolve issues pertaining to the use of remote and online instruction in the delivery of University curriculum and the attendant issues of residency. The memo also includes a set of recommended activities for the Special Committee.

While not considering themselves expert enough to recommend a specific panel to staff the Special Committee, the three committees put forward the following set of principles to guide UCOC in the selection of members for the Special Committee:

- i. The Special Committee should be composed solely of members of the Academic Senate that do not hold administrative posts. Members of the Systemwide and divisional administration, and non-members of the Academic Senate may participate as helpful and appropriate, but only in the capacity of consultants.
- ii. The Special Committee should include the 2008-'09 Chairs of CCGA, UCEP and UCCC; these individuals should remain on the Special Committee, and not be replaced by the new chairs, should the work of the Special Committee continue into the following academic year.
- iii. The membership of the Special Committee should include at least one divisional Senate chair, which would remain on the committee for its duration.
- iv. In addition to the chairs of the standing committees and the divisional chairs, the Special Committee should include at-large members of the Academic Senate whose

expertise and experience is thought to be of particular value. Overall, the membership of the committee should number eight to ten, not including non-Senate consultants.

- v. Several individual respondents to the *Dialectic on the Use of Remote and Online Instruction for the Delivery of University Curriculum* seemed particularly expert in these matters. They might be good candidates for membership on the Special Committee.
- vi. Faculty leaders of the recent *UC 21st Century Teaching Learning and Technology: Past Present and Future* workshop might be natural candidates, or could provide advice on who might be good candidates for the Special Committee.
- vii. Staff support is requested from the Systemwide Senate office, along with adequate funds to support two face-to-face meetings, one at the beginning of the deliberations and another as appropriate.

Please also find enclosed two attachments that may be of relevance as the Special Committee is formed: an abstraction of suggestions from the system-wide review of the *Dialectic*, and an excel file listing attendees of the *UC 21st Century Teaching Learning and Technology: Past Present and Future* workshop.

Yours truly,

Bruce Schumm, CCGA Chair
Keith Williams, UCEP Chair
Lisa Naugle, UCCC Chair

Copy: UCEP Chair Keith Williams
UCCC Chair Lisa Naugle
Executive Director Martha Winnaker

Enclosure (1)