UC Davis
Special Visit Report

UCDAVIS
UNIVERSITY OF CALIFORNIA

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[1] Appendices are located in a separate file.

UC Davis Special Visit Report

Nature of the institutional context & major changes since the last WSCUC visit

UC Davis is the second-largest of the University of California campuses in undergraduate enrollment, and has the largest footprint of the UC campuses. We first opened our doors in 1908 as the University Farm, the research and science-based instruction extension of UC Berkeley. As the century evolved, our mission expanded beyond agriculture to match a larger understanding of how we should be serving the public. By 1959, UC Davis had grown into a general campus with its own character and strengths. Our presence has expanded regionally and globally, strengthening our ability to serve the public through research, academics and public service. While we continue to be a world leader in agriculture, all of our colleges and schools have achieved distinction.

We currently enroll more than 37,000 students, of which approximately 30,000 are degree seeking undergraduates. Undergraduate teaching at UC Davis takes place in four colleges (College of Agricultural and Environmental Sciences, College of Letters and Science, College of Engineering, and College of Biological Sciences), supported by faculty from the graduate and professional schools (School of Veterinary Medicine, School of Medicine, School of Law, Graduate School of Management, School of Education and the Betty Irene Moore School of Nursing). Undergraduates enroll in more than 100 different majors ranging from African American and African Studies to Atmospheric Sciences; Biomechanical Engineering to Biochemistry and Molecular Biology; Viticulture and Enology to Cinema and Digital Media Studies. The number of students in each major ranges from fewer than ten to more than 1,800. Graduate and professional programs conferring advanced and post-baccalaureate degrees are offered in the colleges and professional schools. UC Davis employs 23,000 academic and administrative staff, has an annual budget of $4 billion, and contributes more than $8 billion in statewide economic activity.

Our last WSCUC visit took place April 9-11, 2014 for our ten-year reaccreditation cycle. Reaccreditation was confirmed in the Commission Action Letter of July 7, 2014. All documents associated with the 2014 cycle can be found on the UC Davis Reaccreditation website.

The current climate

As part of the University of California system, we take pride in our tripartite mission of teaching, research, and service. Under the leadership of President Janet Napolitano since 2013, the UC system has taken strong stands on educational access and equity, and continued as a key generator of upward social mobility for our graduates. With 42% of its total undergraduate student body the first in their family to attend and complete college and over 900 faculty self-identified as first generation themselves, the UC system leads the nation in achieving the mission of public, land-grant institutions: to broaden the base of educated citizenry and provide crucial innovations that improve the lives of our generation and those to come. UC Davis sits squarely at the heart of that mission with 400 of the 900 self-identified first-generation faculty on our campus, with 44% of our student body as first-generation, and with our placement in the top ten universities for upward social mobility of our graduates.

Major changes in leadership since April 2014

UC Davis has undergone significant leadership transitions since our April 2014 reaccreditation site visit. Our former chancellor was placed on administrative leave in April 2016 and resigned as chancellor in August 2016. Provost and Executive Vice Chancellor Ralph J. Hexter served as acting and then interim chancellor from April 2016 to July 2017, with faculty advisor to the chancellor and provost Kenneth C. Burtis serving as acting and then interim provost. The appointments gave the campus continuity and stability as the UC Regents conducted a national search for a new chancellor. While the Office of the President led the recruitment, the process involved campus faculty, staff, and students.

On August 1, 2017, Gary S. May commenced his appointment as the seventh chancellor of UC Davis. An accomplished scholar, teacher, and engineer, May came to UC Davis from the Georgia Institute of Technology in Atlanta where he had been dean of the institute's College of Engineering.

After a listening tour of the campus community, Chancellor May announced To Boldly Go, a strategic planning effort to create a ten-year plan for the university. May characterized UC Davis as "a sleeping giant," and called upon the community "to come together and contribute creative and bold ideas that will propel us to accomplish things we've only dreamed of in the past." The broad themes that May asked the community to consider include how to provide better access to Californian students, establish a diverse community that represents the demographics of the state, strengthen our research expertise, and strengthen our presence in the greater Sacramento area.

Other changes in campus leadership since the 2014 site visit

Chief Financial Officer: Senior Associate Vice Chancellor Kelly Ratliff has served as interim lead for the Finance, Operations & Administration Division since Dave Lawlor resigned as vice chancellor and chief financial officer in May 2016. Lawler's tenure began in November 2014.

Academic Affairs: On July 1, 2017, Phil Kass, was appointed vice provost of Academic Affairs. Kass had served as UC Davis's first Associate Vice Provost for Equity and Inclusion, implementing a number of changes to the faculty hiring process discussed in the 2020 section below.

Global Affairs: In September 2015, Joanna Regulska was appointed UC Davis's first chief global strategist serving as vice provost and associate chancellor of global affairs. The vice provost's position was modified to include a reporting line to the chancellor.

Undergraduate Education: Carolyn Thomas (formerly de la Peña) was confirmed as vice provost and dean for Undergraduate Education after serving as interim vice provost. The VPDUE serves as campus accreditation liaison officer (ALO) to WSCUC.

Information and Educational Technology: Viji Murali was appointed chief information officer and vice provost of Information and Educational Technology in August 2014.

Graduate Studies: Prasant Mohapatra was appointed vice provost for Graduate Education and Dean of Graduate Studies effective March 20, 2016.

Office of Research: Cameron S. Carter was named interim vice chancellor in November 2016. A search for the vice chancellor is in process, announced in September 2017.

Chief Campus Counsel: Michael F. Sweeney was named Interim Chief Campus Counsel as of June 8, 2017. A national search is underway.

Human Health Sciences and Dean of the School of Medicine: In May 2017, following the departure of Julie Freischlag, the positions of interim vice chancellor for Human Health Sciences and Dean of the School of Medicine were divided. Tom Nesbitt was named interim vice chancellor of Human Health Sciences and Lars Berglund was named dean of the School of Medicine. A search is in process for a vice chancellor for human health sciences, after which a search will be conducted for a new medical school dean.

Changes in leadership in the colleges and professional schools

Five new deans have been appointed since the university's reaccreditation visit in April 2014.

College of Letters and Sciences: In August 2017 Elizabeth Spiller was appointed dean for the College of Letters and Sciences (L&S), fulfilling one of the key recommendations from the May 2015 final report of the Work Group on the Reorganization of L&S. The largest of the undergraduate colleges, it encompasses three divisions: social sciences (DSS), humanities, arts, and cultural studies (HArCS), and mathematics and physical sciences (MPS). Prior to the restructure, each division had its own dean, but shared resources including advising and development. The restructuring process was informed by the Work Group on the Reorganization of L&S and the Joint Academic Senate / Administration Task Force on the Academic Organization of UC Davis.

College of Engineering: Jennifer Sinclair Curtis became dean effective October 19, 2015, succeeding interim dean Jean VanderGheynst and previous dean Enrique Lavernia.

College of Biological Sciences: Mark Winey became dean effective August 1, 2016, succeeding interim dean Peter Wainwright and previous dean James Hildreth.

School of Education: Lauren Lindstrom became dean effective June 1, 2017, succeeding Interim Dean Paul Hastings and founding SOE Dean Harold Levine.

Graduate School of Management: H. Rao Unnava was named the dean of the UC Davis Graduate School of Management effective June 22, 2016, succeeding interim dean Ann Huff Stevens and previous dean Steven Currall.

Changes in the student body

Since the last visit, UC Davis has seen changes in both number and composition of students. In addition to the increase of national and international students related to the 2020 Initiative (see 2020 Update section later in this document), the UC Davis student body has experienced demographic changes. The Fall 2017 entering class included more than 4,000 first generation college students (freshmen and transfer combined), or 44% of the incoming domestic class. This is an increase of about 1,000 compared to the Fall 2010 entering class when about 3,000 were first generation students.

The undergraduate Hispanic population at UC Davis has been rapidly increasing over the last eight years. As of Fall 2017, Hispanic students comprised 25% of all domestic undergraduates. Reaching this threshold makes it possible for campus to apply for the designation of Hispanic-Serving Institution with the U.S. Department of Education. Related to this change, the percentage of underrepresented minority domestic students has increased from 19% in Fall 2010 to roughly 30% in Fall 2017. Most of the growth has occurred in the number of Hispanic students, with an increase of more than 2,500 students over the last eight years. The number of African American students has increased by more than 300, and the number of Native American students has increased by about 30. Figure 1 visualizes changes in enrollment growth.

The number and percentage of female undergraduates has also continued to increase, going from almost 14,000 in Fall 2010 to nearly 18,000 in Fall 2017, or from 55% of undergraduate students to 59%.

The four-year graduation rate for freshmen has continued to improve, reaching 61% for the 2012 cohort, which is an increase of ten percentage points when compared to the 2005 cohort. The six-year freshmen graduation rate has increased to 85% for the most recent two cohorts, which is up five percentage points from the 2003 cohort. The two-year graduation rate for transfer students has increased to 53%, up three percentage points from the 2010 cohort, and the three-year graduation rate increased to 82%, up two percentage points from the 2010 cohort.

Figure 1: Undergraduate enrollments by race/ethnicity or international status

Total enrollments since 2010-11 by race/ethnicity or international status

	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
African-American/Black	692	726	729	782	820	883	934	997
American Indian/Alaska Native	161	189	208	222	239	240	232	234
Asian/Pacific Islander	9,324	9,292	9,588	10,024	10,192	10,372	10,008	9,854
Hispanic/Latino/Chicano	3,212	3,528	3,788	4,070	4,432	4,931	5,222	5,891
International	480	526	684	948	1,355	1,887	2,673	3,255
Other or left blank	1,412	1,188	943	711	538	425	436	451
White/Caucasian	8,325	8,161	7,990	7,825	7,744	7,725	7,490	7,354
Grand Total	23,608	23,610	23,930	24,582	25,320	26,464	26,995	28,037

What our students study

Biological sciences, psychology, and economics have held steady as the top three majors, with managerial economics doubling in size since 2012 and computer science, communication, and human development making their first appearances in the top ten majors over the last two years,

displacing political science, English, and civil engineering. For female students, top majors include biological sciences (1), animal science (3), neurobiology, physiology and behavior (4), and biochemistry and molecular biology (6), demonstrating our strength in bringing women into STEM fields.

Figure 2: Top ten majors in the past ten years

Source: http://www.budget.ucdavis.edu/data-reports/high-level-dashboard.html
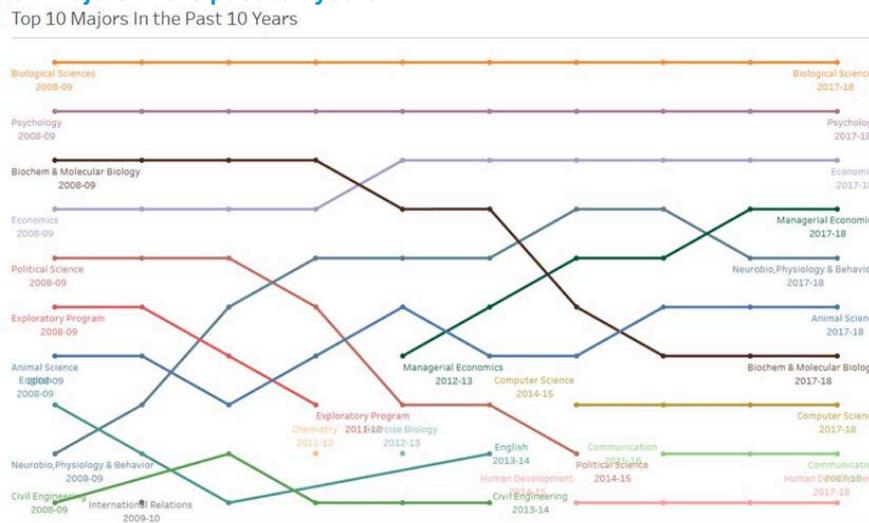
Statement on report preparation

On February 7, 2017, Carolyn Thomas, Vice Provost and Dean for Undergraduate Education, and Jon Rossini, Vice Chair, Davis Division of the Academic Senate, appointed a Joint Administration/Academic Senate WASC Special Visit Steering Committee charged with preparing the report; see Appendix A. The committee met monthly to plan the report, coordinating shape and scope, and assigning particular sections to the appropriate subject matter experts from across the campus, including Senate committee chairs, selected faculty, and key administrators. In November 2017, a draft was compiled and submitted to the Academic Senate for consultative review. In January 2018, responses from the Graduate Council, Undergraduate Council, Committee on Undergraduate Instruction and Program Review, General Education Committee, and Committee on Courses of Instruction were reviewed and addressed, and the report was forwarded to the chancellor and provost for review.

Response to issues identified by the commission and the last visiting team

The WSCUC Commission Action Letter of 2014 identified the following issues for a progress report:

   a. Assessment: how data gathered about student learning outcomes are used consistently across all departments to guide improvement. (CFRs 2.6, 4.4)
   b. Program review: how direct evidence of student learning has been incorporated into the program review process and how the results of program review are used in the allocation of resources. (CFRs 1.8, 2.5-2.7)

c. 2020 Initiative: an update on the implementation of the 2020 initiative with specific attention to the faculty/student ratio; ladder rank vs. non-ladder rank faculty; faculty diversity; level of course impaction; changes in staffing; advising; academic support and student services; and facilities. (CFRs 3.1, 3.2, 3.4, 3.6, 4.1-4.3)

Issue (b) is treated within our discussion of issue (a).

Assessment and Program Review

UC Davis is working towards universal direct assessment of student learning outcomes, and building a culture that values assessment as a way of improving curriculum and instruction. Our strategy includes efforts at both campuswide and grassroots cultural change. The Davis Division of the Academic Senate has collaborated with the Offices of the Chancellor and Provost (OCP) as well as the Office for Undergraduate Education (UE) to develop and implement policy changes that promote direct assessment of student learning. The Academic Senate, central administration, and the college Deans' offices have advocated for direct assessment while faculty and staff, individually and in small groups, have taken on the challenge of designing and executing assessment projects.

The goal of assessment approaches at UC Davis, whether within Academic Senate's program review or outside of it, is to make sure that assessment strengthens instruction and student success. Rather than imposing a generic assessment plan that collapses disciplinary difference, the campus has chosen to engage in a continuous dialogue to allow programs to bring to bear assessment tools and structures that most closely align with their program learning outcomes, in the process provoking important and meaningful conversation about the value of various elements of the major and the function of individual courses within the major pathway.

Following is a summary of changes detailed below:

- The Academic Senate has improved the Undergraduate Instruction and Program Review (UIPR) process to incorporate direct assessment into the seven-year review cycle for every major; increase the efficiency and consistency of these reviews; and "close the loop" to ensure timely, meaningful feedback to chairs and facilitate conversations about resource allocation at multiple levels. The General Education Committee has iteratively worked to craft an effective assessment process of the General Education contributions of departments undergoing program review. Graduate Council has enhanced and clarified their guidelines for mentorship and is working toward more holistic and robust annual evaluations of student progress.
- The College of Biological Sciences has developed an online reporting tool to streamline assessment data collection for all of its majors; Undergraduate Education's Center for Educational Effectiveness is developing that into LOCI, a campuswide Learning Outcomes for Continuous Improvement tool.
- The College of Engineering created a one-year position to develop assessment tools integrated with Canvas, the new campuswide learning management system.
- Undergraduate Education's Assessment Coordinator works to develop a culture of assessment by offering workshops, consultations, online resources, and an annual showcase for the exchange of ideas.

- Our plan going forward includes continuing to develop technological tools; continuing to build a culture of assessment; and creating new pathways for providing data, reporting, and closing the loop.

Academic Senate program review and assessment

The Academic Senate of the University of California governs the curriculum, as authorized by the Board of Regents of the University of California. In this context, the Davis Division of the Academic Senate has two primary bodies responsible for review and assessment of programs: Undergraduate Council and its subcommittees, and Graduate Council and its subcommittees. Separately, the Committee on Courses of Instruction has the authority to review and approve individual courses.

Despite the large size and diverse range of programs at UC Davis, the university has always prided itself on maintaining excellence that matches the needs of individual programs rather than imposing specific academic requirements or practices from on high. In assessment, this translates into structures and practices that generate frameworks and support, but that do not mandate specific forms of assessment. Instead, the goal is to enable the experts in the discipline, in consultation with experts in assessment, to generate relevant and impactful practices from their specific disciplinary lenses, with the goal of generating self-sustaining and increasingly robust practices of review and assessment. Ongoing developments and attention to review practices and assessment have begun the difficult process of transforming program review from a mandated exercise into a meaningful opportunity to help improve student learning. Assessment offers a means to more effectively match resources with clearly stated priorities, as articulated in program learning outcomes. The goal of this alignment is greater student success. A recent change in budget practice pursues the value of resource-need alignment. Specifically, program review outcomes, including direct assessment outcomes, now appear on the agenda during budget meetings between the Provost and Deans.

Undergraduate program review and assessment

The undergraduate instruction and program review process occurs in a seven-year cycle in which each major is reviewed as a part of a cluster (see Appendix B1). The review process is constantly evaluated and changes are made as necessary to make the process as effective as possible. The current process includes a departmental self-study, which requires a response to data provided by the office of Budget & Institutional Analysis as well as detailed responses to other questions. The review team consists of one UC Davis faculty member and one external faculty member who review these materials, interview administrators, faculty, staff and students during a 1-2 day visit, and jointly or individually author a report. The combined packet is then reviewed by the Undergraduate Instruction and Program Review Committee (UIPRC) whose members read the departmental materials and the Review Teams' reports, analyze the findings as a committee, and write a summary report for each major that highlights a small number of key recommendations and areas of concern. Simultaneously, the department submits materials on its General Education courses for review by the General Education Committee (GEC). Both committees submit their reports containing specific recommendations to the Undergraduate Council (UGC) for further review. UGC crafts a cover letter with their specific recommendations and concerns before submitting the entire review and response to the Office of Provost, which provides a written response. These materials are subsequently discussed with chairs, deans, and representatives of the provost, and used in budgetary discussions between the deans and the provost, an activity we refer to as "closing the loop."

The current process is a result of ongoing development with specific emphasis on two issues raised by the 2014 WSCUC Commission team. While the team noted that UC Davis had "'well-established'" procedures for the review of its undergraduate and graduate programs," they observed two areas for improvement in the Undergraduate Program Review process: (1) greater use of direct assessment of student learning in the program review process (2) greater use of the results of program reviews in the budgeting process and allocation of resources to programs. The Academic Senate began to work on improving these processes.

In the fall of 2015 the Chair of the Academic Senate informed the Chair of UGC that the most recent 2014 WASC review had suggested the need for improvements in the campus' approach to assessment during program review, and an improved mechanism by which the review process would inform the campus budget process, with a key emphasis on the direct assessment of student work.

In this context, and as part of the Academic Senate's ongoing commitment to ensuring that program review is a regular and meaningful element of our work, UGC and two of its key subcommittees, UIPRC and GEC undertook several initiatives to integrate regular direct assessment into the Program Review process, and to facilitate a process through which final recommendations for individual programs were carefully considered in the allocation of resources.

While we must remain vigilant to ensure that these reviews continue to serve as efficient and effective means of assessing, maintaining, improving instructional program quality, the structural changes discussed below have already led to more efficient and useful processes that are slowly gaining greater buy in across constituencies on campus. In addition to meetings with the units to address specific concerns of the reviews, program reviews are a fixed part of the agenda every College Dean's annual budget meeting with the Provost (which is also attended by the chair of the Faculty Executive Committee of the College), thus creating a structural shift in attention and accountability.

During Fall 2015, UGC, UIPRC, and GEC, in consultation the assessment coordinator in Undergraduate Education refined and adjusted the processes for UIPR and GE reviews to, among other things, include the use of "direct assessment of student work" within the contexts of the UIPR process and the ongoing GE process for review of GE courses. This revised process was implemented with the Cluster 3 reviews (2015-2016).

The current UIPR process, redesigned in 2013-2014, was implemented during 2014-2015 to improve consistency of reviews; reduce the time required for completion of reviews; include assessment of student work regarding learning outcomes (revision for 2015-2016 cycle); and assure that the reviews were received and addressed by the Provost with respect to planning and budgeting.

The following changes were made in that re-design:

- Updating the self-review template to include a review of program data provided by Budget and Institutional Analysis (BIA) (a process which began in 2007-8);
- Adding a reviewer external to the university to the program review team (2014-15);
- Adding a section to the review template that includes a discussion of processes/examples of direct assessment of student work (2015-16);

- Creating a clear timeline and flowchart of the review process that is completed in approximately one year (a substantial decrease from previous practice) (2014-15); and
- Shifting the structure to create more direct engagement between programs, Deans, and the Provost and connects directly to resource allocation (2014-2015).

With respect to assessment, changes made to the UIPR process, as reflected in the self-review template provided to programs, were designed to encourage movement toward the use of best practices in program learning outcome assessments. Specifically, the review templates were revised in an attempt to have programs feel more "ownership" of learning assessment through development from the ground up, with the goal of improving the success of programs in mapping program learning objectives to the curriculum and enhancing program planning to address deficits in student learning or in program's assessment thereof.

The self-review template (see Appendix B2) was revised to include more specific assessment of Program Learning Outcomes and was used in the 2016-17 academic year with Cluster 3 programs, which include Agricultural and Environmental Education, Anthropology, Communication, East Asian Studies, History, Linguistics, Philosophy, Cognitive Science, Science & Technology Studies, Middle East/South Asia Studies, as well as the Science & Society and Jewish Studies minors and the Asian American Studies interim review. Section 8 in the program self-review documents, developed in collaboration with the Undergraduate Education assessment coordinator, addresses assessment of student learning outcomes. This revised Section 8 encourages programs to reflect on and develop structured and institutionalized, ongoing, and multidimensional assessment of student learning outcomes by pointing to a number of forms of data (direct and indirect) that can be used, encouraging programs to begin establishing an infrastructure and a curriculum map that matches learning outcomes to particular courses. By including Section 8 in the review template, the Academic Senate ensures that every department offering undergraduate majors has a mandate to provide direct assessment of student data. This process is ongoing, and the landscape of responses ranges from programs who have basic structures in place to programs who have highly sophisticated recursive programs.

Due to the immense range of program size, structure and focus, a key goal has been to ensure that programs work to develop assessment that is integrated into the specific goals and structures of the major in order to encourage faculty excitement about continuous improvement in teaching practice, rather than imposing a homogenous, top-down model that merely generates an empty exercise of generating mandated data reports. As programs go through the cluster review process, they are encouraged to consult with Undergraduate Education's assessment coordinator to generate productive and sustainable modes for assessment.

The assessment of GE courses has been developed with an eye towards sustainability. Senate members leading this new effort have sought to keep things manageable, from a workload perspective, and to integrate their inquiry into the regular program review process. The GEC began a program of assessment of the University's General Education Program in the spring of 2014 running in parallel to the Undergraduate Program Review cluster cycle. Given the extremely large number of courses under consideration (2819 courses offer at least 1 GE literacy), in addition to paralleling the cluster strategy, the committee initially employed a sampling strategy that asked programs going through review to provide materials from the largest enrollment classes for each literacy. The intent was to get a sense of the landscape before refining the process based on lessons learned from the initial sampling.

Cluster 1 materials were presented to the GEC Winter Quarter 2015 including syllabi, examples of assignments, and samples of student work to cover the range of grades assigned in a given course. Due to the volume of material, the committee chose to address only four of the literacies and prepared reports that were forwarded to UGC. Based on this initial experience, GEC determined that it needed to provide clearer instructions to programs and streamline its assessment of materials. These recommendations were enacted in the request to Cluster 2 programs in Spring Quarter 2015. In Fall 2015, a further refinement was added: re-assessing Cluster 1 materials in parallel with Cluster 2 assessment and forwarding reports both to UGC and back to the programs. The committee streamlined the process to enable a clearer set of findings, creating three separate evaluations: syllabi, assignments, and student work.

On March 1, 2016, the Senate Chair, together with the UGC Chair, UIPR Chair, and GEC Chair presented the revised UIPR and GE processes and timelines to the Provost and Deans. The objective of the presentation was to improve understanding of, and participation in, the review process, to garner support for the review process, and to ensure that the Cluster 3 reviews (conducted during 2016-2017), which included student work, were clearly understood and supported by the relevant administrators. Information on the current review cycle can be found in the Cluster 4 Kickoff Meeting PowerPoint Presentation.

There is also now a clear expectation that the process of recurring, iterative systematic assessment of student learning outcomes should occur as part of Academic Senate program review.

What follows below is a more detailed description of the processes, discussions, successes and challenges observed by the subcommittees during this time frame.

UIPR assessment: process, development and discussion

Section 8 asks the following main question, "Question: How does the program monitor and evaluate its success in achieving its Program Learning Outcomes (section 1)?"and follows this up with ten (10) specific questions that ask about use of direct data to assess students' progress towards Program Learning Outcomes in Capstone courses and the use of indirect data to assess students' progress in courses that are introductory or intended to develop students' mastery in a given area. Section 8 also asks programs to complete a curriculum map indicating how PLOs are integrated at different levels of the curriculum; to explain how assessment is carried out in individual undergraduate majors (e.g., who undertakes the work of analyzing data?); to comment on obstacles to conducting meaningful assessment; and to report on the usefulness of assessment tools in a program's self-definition and identification of relative strengths and concerns.

From the evidence in the self-reviews of Cluster 2 (2015-2016) it was clear that undergraduate programs were aware of the campus resources to support their work in establishing meaningful assessment of students' learning in their majors, and various programs have established very effective assessment procedures that, in turn, will enable faculty to use the findings to re-direct and improve pedagogies and modes of instruction in undergraduate education.

At the same time, a majority of undergraduate programs in Cluster 2 (particularly majors in the College of Biological Sciences and in the Division of Mathematical and Physical Sciences in the College of Letters and Science) have seen substantial and sharp increases in student enrollment

as yet unmatched by an increase in teaching and advising staff. As a result, they face a severe lack of resources (time, funds, personnel) to devote to a thorough and useful implementation of data obtained through meaningful assessment of student learning or to use support available through the assessment coordinator at UC Davis. A second challenge in this process is a misperception in some areas on campus that assessment is an all or nothing activity that discounts the value of informal modes of formative assessments as well as preliminary engagements with smaller sample sizes.

The UIPR Chair's concluding report on Cluster 2 review communicated an urgent need for the campus to make adequate faculty and staff resources a high priority so that undergraduate programs can develop meaningful assessment tools: "A number of programs are currently engaged in important initiatives relating to assessment of student learning outcomes; but in many of these programs there is little room left for a creative response to any problems those initiatives will identify. And while some laudable and timely curricular innovations are under consideration, it is not at all clear that departments will have the resources to implement them."

While all undergraduate majors have now defined Program Learning Outcomes, and most have integrated these into program websites, the UIPRC found that majors reviewed in Cluster 3 (2016 – 2017) are facing some of the same hurdles to implementation of meaningful assessment as in Cluster 2. For some departments, rapid increases in student enrollment—for example, the Communication major saw an increase from 598 in Fall 2014 to 850 in Fall 2016—challenged the faculty's capacity to engage in high-quality assessment. In 2016-17 Communication overhauled its assessment plan with the leadership of a newly hired LPSOE (Lecturer with Potential Security of Employment). Having revised their PLOs and established a curriculum matrix, the program is gathering and analyzing pilot data for courses with a *Demonstrates mastery* rating for PLO 4, *Apply critical thinking and media literacy skills to support purposeful and reflective judgments as they pertain to interpersonal and mediated communication.* With the implementation of Canvas as the campus Learning Management System, Communication is starting to integrate learning outcomes and portfolio assessment into their course structure; until now, Scantron forms have been the only assessment tool used in Communication because of the size of the major.

While the recent changes have yielded several examples of successful assessment, discussed later in this report, UIPRC notes interdisciplinary and interdepartmental undergraduate programs face additional obstacles with assessment because oversight of the curriculum is often not in the hands of the director of the programs since courses are offered by a variety of departments and programs.

Despite these challenges, UIPRC is pleased to see departments and programs clearly attending to and developing strategies for direct assessment of student work.

General Education (GEC) assessment: process, development and discussion

All undergraduates must satisfy the General Education (GE) requirement, which comprises topical breadth and core literacies components.

The current GEC assessment of the submitted data addresses the following points:

Syllabi:

- Does the syllabus indicate that the course satisfied the designated literacies?
- Does the syllabus clearly delineate student expectations with respect to the GE literacies?

Assignments:

- Do the assignments meet the learning objective of the literacy?
- Is it necessary to master the GE literacy in order to pass the assignment?

Student Work:

- Does student work address the concepts of the literacy?
- Have the students mastered the learning objectives of the literacy?

With respect to assessment of the syllabi, GEC concluded about two-thirds of all classes met the standards for each general education literacy for which they were approved. Although GEC could determine the areas of concern, it could not determine the causes of failures in design. Anecdotal evidence suggested that one cause might be a failure to convey to new instructors the content expectations connection to assigned GE literacies. An additional factor is the strong sense of respecting the rights and responsibilities of individual faculty members within their classrooms, which results in a reluctance to provide advice that appears to dictate practice. To address concerns for academic freedom of the programs, in the cluster assessment reports the GEC is now stressing the importance of the consistency with which the GE literacies are taught across the university. To address the systematic problem of the failure of communication from one instructor to the next, GEC continued to modify the requests to the programs for Cluster 3. For this cluster, the GEC asked the programs to do a self-assessment of all GE classes (not just the largest-enrollment classes) to raise the level of awareness of the GE requirements within the programs. The GEC still requests materials for the largest enrollment classes, and uses those data to cross-check the program's self-assessments. Based on the cluster 3 results, the GEC concluded that direct communication of the GEC literacy expectations to instructors prior to each quarter would be necessary. This presents a logistical challenge which requires resources. Therefore, the GEC has prepared a statement of the problem, which has been approved by UGC and forwarded to Academic Senate leadership.

From the assignments, the committee was able to assess whether instructors were meeting the expectations of the given GE literacies. In general, the major finding from the submitted assignments is that the interpretations of the GE requirements need to be made more specific so that there is a clearer direction to the instructors as to what is expected.

GEC embarked on that effort in the Fall quarter of 2016. A clearer set of draft interpretations was prepared and commented upon by UGC and COCI in the Spring of 2017. With this input further revisions were completed in the Fall of 2017. These revised interpretations have now been approved by UGC and are currently under review by COCI. GEC will continue the level of course compliance to the standards to determine the effectiveness of this solution.

Another important ongoing discussion is the best method for assessing student work. The current consensus is that GE principles are generic and that all university faculty should be able

to assess these concepts. The committee assessment is not to determine whether the students meet the expectations of a given class, but only to determine whether their work indicated an understanding of the concepts of a given literacy to the level expected in the course.

Graduate program review and assessment

There are approximately 96 graduate degree programs at UC Davis. Graduate programs are either directly aligned with departments (which also administer undergraduate degrees) or are non-departmentally-based graduate groups, which are interdisciplinary, interdepartmental (including inter-college/school), and linked to a home college/school Dean for coordination of resource allocation. There is an approximately 45-55 split between departmentally-based graduate programs and non-departmentally-based graduate programs (graduate groups).

Graduate education at UC Davis is governed by Graduate Council (GC), which is a standing committee of the Davis Division of the Academic Senate. The overall guiding principles for graduate education, which essentially form general Program Learning Outcomes for graduate students in any field, can be found in the 2005 Graduate Council document *Objectives for Graduate Education*:

> Ethical citizens and scholars with knowledge and appreciation of the diversity of intellectual and creative activity; independent, innovative researchers adept at creative and critical thought; leaders in the creation of new knowledge and understanding of the world and our activities in it; excellent communicators with outstanding teaching and mentoring skills; and achievers successful in collaborative and cooperative ventures.

GC accomplishes its governance of graduate education with the help of a number of subcommittees. Graduate programs are periodically reviewed and assessed by two GC subcommittees, the Program Review Committee (PRC) and the Program Review Closure Committee (PRCC). New program proposals and changed program requirements are reviewed by The Education Policy Committee (EPC) for conformity with GC policy guidelines. New graduate courses or changes in graduate courses are reviewed by the Graduate Courses Sub-committee (GCC). The review of graduate programs by-laws and policies related to the governance of graduate programs are conducted by By-laws Committee (BYLAWS).

All graduate programs are subject to review every 7-9 years and sometimes at shorter time intervals if deemed necessary. Reviews are conducted by the PRC by establishing an independent ad-hoc committee for each graduate program reviewed. Ad-hoc committees review, assess, and make recommendations for how graduate education can be improved. Reports by ad-hoc committees are then reviewed by the PRC, which submits these reports with PRC recommendations to GC. GC then forwards its assessment and recommendations to the graduate programs reviewed, the Dean of the lead college, the Dean of Graduate Studies, and the Provost. Graduate programs are then required to develop written reports for how they plan to address all of the recommendations and problems raised in the program review. The review of responses is overseen by the PRCC, which recommends to the GC closure of the review process if the responses are adequate, or that more resolution is necessary before the review is closed, necessitating further responses from the appropriate entities.

The program review process consists of an independent ad-hoc review committee composed of faculty not in the graduate program, and for programs with PhD degrees, an external reviewer

from a research-intensive university. A graduate program is notified of an upcoming review in a timely manner and instructed to develop a graduate program self-analysis based on data provided by the group itself, Graduate Studies, and other campus administrative units. To aid the ad-hoc committee in their review and assessment, the program faculty and students are confidentially surveyed and subsequently a two-day meeting is held by the ad-hoc committee with faculty, staff, and students in the program. When making its assessment of a graduate program, the ad-hoc committee considers the quality of the program's:

- curriculum;
- faculty and students;
- leadership;
- record of achievement;
- standing in the field as a whole;
- anticipated future and trajectory of the program and the discipline;
- contribution and centrality of the program to the missions and goals of the campus and state;
- contributions of the program to other fields of study including graduate and upper division undergraduate levels; and
- FTE, financial, facilities, and other resources required to maintain or improve the strengths of the program.

Program reviews assess program learning outcomes (PLOs) using statistics on a large number of program variables including: (1) graduate admission rates, (2) enrollment rates, (3) matriculation rates, (4) percentage of undergraduates from UCD, (5) average time to degree, (6) numbers of Masters and PhD conferred, (7) average undergraduate GPAs and GRE scores of admitted students, and (8) assessment of the graduate student success in securing employment. Programs are also assessed on (9) whether appropriate courses are offered, (10) whether students are publishing or releasing their work in well-respected venues, (11) student morale, (12) adequacy of space and equipment resources for students, (13) alumni placement, (15) adequacy of student funding through fellowships, (15) grants and TA-ships, (16) faculty morale, (17) whether there is a critical mass of faculty, (18) whether subdisciplines are missing, (19) program leadership, (20) prerequisites for admission, (21) whether the group structure in conducive to program improvement and new ideas, (22) whether the bylaws are current, (23) what the strategic plan is for the program, and (24) what the emerging areas are within the discipline.

Student learning outcome (SLO) assessment in graduate education differs structurally somewhat from undergraduate education. Graduate education, at the doctoral and masters level has emphasized the individual's creation of original knowledge and expression through mentored research activities, the structure of which itself must sometimes be invented by the individual student. Because original research and creative expression, are by their very nature, at the forefront of the field, their specific objectives may be rapidly changing linked to discoveries in the field. Flexible and usually individually crafted SLO assessment occurs within mentorship, guidance committees, exam committees, and the dissertation committees. This concept of individual achievement assessments (IAAs) that occurs within a student's mentorship, guidance committees, exam committees, and the dissertation committee, is formally specified within each program's requirements for a Ph.D. or Master's degree. However, while program requirements are unique to each program they must conform to GC's degree requirements, doctoral qualifying

exam requirements, master's degree capstone requirement, and dissertation and final exam requirements. EPC reviews the degree requirements for conformity to these formal requirements and recommendations from EPC are sent to GC for approval. Thus, the degree requirements for each graduate program provide the formal structure for IAAs.

Ensuring student readiness and preparation for graduate education initially occurs during the admission process. Each graduate program's requirements specify the number of core and elective courses required for either a Ph.D. or Master's degree. All courses have been reviewed by GC. In general, graduate courses provide preparation for the preliminary and qualifying exams (discussed below), which also involves considerable student effort to take these graduate courses, undertake self-study, do lab, field, or other research.

Preliminary and qualifying exams are intense forms of IAA for Ph.D. degrees. As specified in a graduate program's Ph.D. requirements, students may have preliminary exams that are taken after at least half of their course requirements have been completed. A student's qualifying exam committee assesses the SLO, which was crafted for the individual's subtopic of discovery and creative activities in accordance with program requirements. Qualifying exams are taken after all of the course requirements have been completed. The qualifying exam committee is responsible for assessing a student's command of the field to ensure that the student has both breadth and depth of knowledge required. There is an oral (2-3 hours) and a written component (proposal) portion of the exam. Procedures for assessing both components of the exam are specified more generally in GC's graduate program requirements and specifically in each program's requirements. The outcome of an exam is pass, not pass, or fail. A student who receives a not pass can take the exam a second time or complete other specific remediations developed by the committee. IAAs cannot be readily grouped across graduate programs, but the general assessment procedures are described in each program's requirement. There is potential for some programs that have generalized exams to assess outcome statistics. However, because questions may touch on a rapidly changing forefront, they may change from year to year, and outcome statistics may not be readily compared between years.

The annual progress report for all graduate students must be filled out and approved by the graduate program advisor, the student's individual mentor, and the student. It codifies a brief, formal annual assessment of student achievements, by the individual faculty closest to the student. IAAs are implied within the annual progress report, but this report has not always been used as consistently as required by campus graduate education policy. To improve the annual progress report, a pilot study has been started and fostered by GC; and Graduate Studies in collaboration with the Graduate Students Association has implemented a new online version. The new version combines improved mentorship related sections along with other useful parts to improve the IAA.

Other recent improvements in the graduate education structure during the past 3 years includes a revision of the mentorship guidelines; and a revision of two critical diversity-related policies and procedures: the de-emphasis on standardized test scores in fellowship application review, and an increase in the length of the personal statement in the online admissions form, specifically the section that involves a description of activities related to diversity activities and individual hardship experiences. This year programs have been given an incentive to attend holistic evaluation workshops to improve appraisal of applicants from underrepresented communities.

Graduate Council views graduate education as a dynamically changing process requiring continual assessment through program reviews, amendments to current policies and practices, and introduction of new policies and practices as needed. Enhancements to scheduling program reviews and faculty commitment to the process have assisted the program review process. Ramped up coordination of resource allocation such as space, laboratories for research, financial resources, TA FTE, faculty FTE for graduate level teaching, computational facilities and campus software system support will also advance graduate education. Graduate Council's efforts currently are in enhancing access to didactic teaching by ensuring support for courses. This is the single-most important challenge facing graduate education currently and impedes nearly every graduate program on campus.

The ongoing practice of assessment

While the newly implemented structural changes to the program review process ensure that the assessment practices of each major will receive careful attention and help shape the allocation of resources, there is a clear mandate to provide ongoing attention to assessment beyond the scope of the program review.

At the assessment summit meeting held March 1, 2016, the Academic Senate and the Provost assigned primary responsibility for assessment activities to the college deans. This process, which is being addressed differently in each college, is resulting in individual development and innovation in particular majors for programs that are not yet undergoing program review. In addition, we see colleges developing technology tools that can, once shared with the broader campus, help us more effectively embed assessment within the everyday practice of teaching. Here are some of the assessment advances occurring on campus beyond the scope of program review.

Strategies for assessment: three technological innovations

While the College of Letters and Science and the College of Agricultural and Environmental Sciences have wide-ranging, diverse majors, and have consequently focused at the major level to construct assessment strategies and plans, the Colleges of Engineering and Biological Sciences have smaller clusters of similar majors and have invested resources in technological tools to aid all majors in the assessment of student learning. As different units on campus invest in tools and strategies to assist at the local level that have potential for broader impact, Undergraduate Education is working collaboratively to make them available to all of the colleges.

Canvas assessment integration pilot: College of Engineering

In AY 2016-17, campus adopted the Canvas Learning Management System (LMS). A cloud-based platform, Canvas provides the campus new functionality around course delivery and assessment. Using Canvas, instructors can build their courses by using modules, assignments, discussions, and quizzes using cloud-based tools. They can assign students to groups for group work and require peer review. Students upload their work to Canvas per the instructor's request—text entry, google doc, web files, pdf, narrated PowerPoint slides, or video file. Tools for assessing student work are also included, and are customizable.

The move from the previous LMS, SmartSite, to Canvas afforded new technology that supports the assessment, reporting, and evaluation of student learning outcomes at the course level. In March 2017, the College of Engineering (CoE), in cooperation with Undergraduate Education

and Information and Educational Technology, began a one-year pilot to use Canvas as tool for measuring and recording learning outcomes at the course level and reporting those at the program level. To fully develop Canvas as an assessment tool, a Learning and Assessment Specialist was hired for the duration of the pilot. The specialist performed a study of how best to deploy Canvas for this purpose, and performed extensive analyses to develop and refine reporting techniques. At the time of this writing, the pilot is in its ninth month and a final report will be available at the time of the WASC site visit. Nonetheless, preliminary results follow.

In the Canvas tool, program learning outcomes are loaded at the department or program level and then attached by instructors to course assignment rubrics. For CoE, program learning outcomes are directly mapped to ABET's student outcomes. Five of the twelve engineering undergraduate majors were represented in the pilot study.

The design of the pilot study allowed participating programs to further refine the assessment practices already in place, to advance continuous improvement of student outcomes per ABET accreditation criteria. For example, the department of Mechanical and Aerospace Engineering focused mainly on student learning outcomes and creating rubrics that would allow for greater assessment reliability across courses, while the Computer Science and Engineering major adopted new ways for assessing and tracking student outcomes by students using Canvas.

From the CoE pilot study, Table 1, below, shows which ABET student outcomes were assessed within Canvas using student outcome-aligned rubrics.

Table 1: ABET student outcomes

Quarter	Number of Students	Student Outcome	Department
Spring	71	J – Knowledge of contemporary Issues	Mechanical and Aerospace Engineering
Spring	51	D – Ability to function on multidisciplinary teams	Mechanical and Aerospace Engineering
Spring	51	G – Ability to communicate	Mechanical and Aerospace Engineering
Spring	93	G – Ability to communicate	Civil and Environmental Engineering
Spring	83	J – Knowledge of contemporary Issues	Materials Science
Summer	41	I – Demonstration of life-long learning skills	Mechanical and Aerospace Engineering
Total =	390		

The pilot study made clear that Canvas provides a platform for analyzing student outcomes data across programs and, specifically, for improving the reliability and validity of assessment tools

and processes. See Appendix C for a draft report on the study. The following general themes were identified and inform the next steps for the faculty of programs within the college:

- Continuous improvement depends on reliability and validity of measurement tools and processes;
- Rubric data are needed at the program level to support reliability and validity checks of continuous improvement efforts; and
- The validity of the alignment of course-level outcomes to student outcomes (program learning outcomes) must be continuously reviewed using student data.

While CoE is the only college that participated in the pilot, the preliminary results show potential for use by other programs across campus. Preliminary outcomes from this pilot will be presented at an upcoming Council of Associate Deans meeting so the findings are disseminated to undergraduate academic leadership from the other colleges.

As of this writing, CoE feels that the pilot shows promise in using Canvas to collect data from course-level assessments for program learning outcomes evaluation. However, it takes time and effort to get faculty to adjust to using this tool and the reporting features of Canvas are lacking sophistication. It is recommended that campus put resources into these two aspects:

1. an "ambassador" to assist faculty in using course-level rubrics that are aligned with the program learning outcomes and in program-level administration of the data collection; and
2. create a dashboard or other tool to transform the Canvas data into a usable report format for continuous improvement.

College of Biological Sciences' tool and repository for collecting assessment data

The College of Biological Sciences (CBS) is fostering assessment by providing faculty and staff with a software tool that will increase efficiency in the annual reporting of student success indicators. Faculty in CBS approached the assessment of student learning from the standpoint of program learning outcomes. Each of the nine majors offered by the college represented a program. For each major, lead faculty created curriculum matrices pairing program learning outcomes with the required course work. Faculty noted whether learning outcomes were introduced, practiced, or mastered at each point in the matrix.

For each course in the matrix, Instructors were asked to develop measurable learning outcomes and to share their assessments. This led to group discussions of assessment methods, data collection, and the need to store representative student work judged to be below, at, or above, an acceptable standard. Faculty asked who was going to collect their assessment data and where these data would be housed. It seemed that faculty were not going to design and complete assessments if there was no place to compile them.

CBS is unusual in that all the majors in the college rely on a central core curriculum at the lower and upper division. The college-specific portion of the core consists of an introductory biology series (3 courses) and 3 to 4 upper division classes in genetics, biochemistry, and cell biology. Mastery of the core subject matter is fundamental to all our majors, but data are collected in individual departments where courses are given. In the absence of a central assessment repository, it would be difficult for faculty across the majors to access data from core courses.

The CBS Dean's office felt there was a clear need for an assessment repository that was easy to use and permitted data to be shared across majors and departments, as well as aggregated at the program level, and asked a College programmer to develop a web-based repository where data entry occurs at the course level. Faculty develop and complete an assessment for one or more of their class learning outcomes, then enter a description of the methods and outcomes on the web. Data entry is relatively easy via pull-down menus, free text fields, and the option to upload samples of student work or sample assessment questions. Faculty are asked to briefly state how the outcome of the assessment will influence future offerings of the course so iterative change in courses can be studied.

Figure 3: Sample course assessment information in the College of Biological Sciences Program Assessment Tool
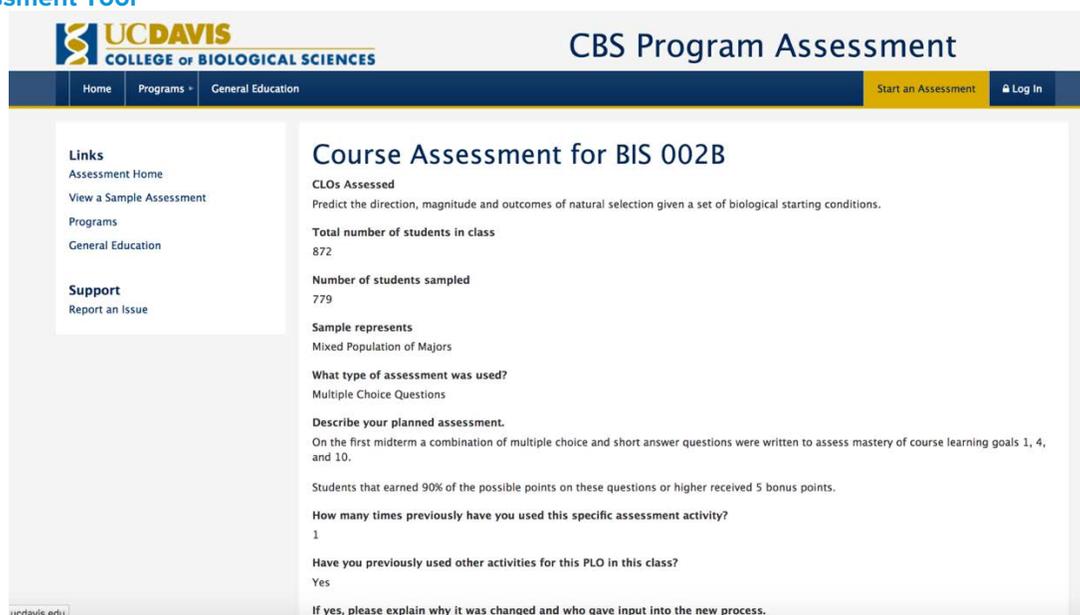
Once a course assessment is entered, the application records the date of assessment and a link to the results in all the program curriculum matrices where the course appears, making it is easy for lead faculty in each major to see what has been completed and where gaps in assessment exist. If a course is a component of the General Education Program, the application allows entry of assessment data for various literacies, in addition to assessment data on course learning outcomes.

Figure 4: Interactive curriculum matrix for the Genetics and Genomics Major

The tool also includes introductory material on assessment to engage and educate faculty.

Figure 5: Engaging and educating faculty on assessment

There has been interest in the application from other colleges and from the campus assessment group, including building a connection between the application and the gradebook portion of Canvas, but this link is not part of the current programming.

Learning Outcomes for Continuous Improvement (LOCI) tool

Undergraduate Education is working with the college associate deans to develop Learning Outcomes for Continuous Improvement (LOCI), a web-based tool modeled on the College of Biological Sciences (CBS) tool that can be used for assessment outcome reporting in all four colleges. A centralized data collection and reporting tool, LOCI increases collective and individual capacity to inquire about student learning as part of program learning outcomes assessment.[2] When fully populated, LOCI will enable reporting related to engagement in program learning outcomes assessment activities and continuous improvement. Reporting may include programmatic or curricular modifications based resulting from direct measures of student learning; re-assessment and implementation of PLOs; and evidence of improvement in student learning.

Developed by the UE assessment coordinator with Center for Educational Effectiveness (CEE) programmers, beta-testing for the tool began in November 2017. LOCI was initially populated with program outcomes assessment information gathered in June 2017 in preparation for the WSCUC Special Visit Report. It is informed by the expectations expressed in WSCUC's Inventory of Educational Effectiveness Indicators, as is the CBS tool on which it is modeled, and integrates the recently developed Program Learning Outcomes Assessment Rubric (see Appendix E) as the guiding framework for reporting.

The assessment coordinator's goal in developing LOCI is to support the intentional use of evidence of student learning to inform programmatic, curricular, and / or budgetary planning. In presenting a well-designed, streamlined tool, LOCI can raise users' awareness of, and ability to apply, the principles underlying program learning outcomes assessment (e.g., transparency, alignment, equity, and agency). Implementation of LOCI is a significant step towards increased capacity to engage in meaningful and sustainable outcomes assessment efforts.

The role of central campus administration/Undergraduate Education

Development of the LOCI is an example of the collaborative, centralizing function of the Office of Undergraduate Education. The Vice Provost and Dean for Undergraduate Education serves as the campus accreditation liaison officer (ALO) for WSCUC, and is engaged in implementing its recommendations. This role is manifest in two primary ways pertaining to assessment: working with college deans, the Academic Senate, and faculty to communicate information about assessment to units that deliver instruction; and ensuring that our campus learning outcomes assessment coordinator and her student team are available to support the continuing education and support of faculty in best assessment practices. For example, at events such as New Faculty Welcome, TA Orientation, and the Assessment Showcase, the Vice Provost encourages instructors to approach teaching with the same curiosity and analytical mindset that drives research; presents assessment as the framework for inquiry into what is working well in the classroom (or other instructional setting); and shares resources within UE that support such inquiry.

In 2012, UE established an assessment coordinator position to advance a culture of inquiry into student learning. To support a culture of assessment, the coordinator consults with faculty and staff, develops resources and tools, hosts a monthly assessment symposium for faculty to share

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[2] Building assessment capacity requires clearly articulated goals, intentional scaffolding, and multiple opportunities to engage.

up-to-date information regarding best practices in assessment, and coordinates the annual Program Outcomes Assessment Showcase.

In 2017, the position was situated as the assessment lead within the Center for Educational Effectiveness (CEE), which engages in research and development of tools for educational effectiveness and works with faculty partners to implement those tools and foster best practices in teaching and learning. With CEE staff, the assessment lead is advancing the development of tools such as the LOCI. Another recently developed tool uses Bloom's (Revised) Taxonomy to assess the language of learning outcomes and identify which of the cognitive processes dimensions (*remember, understand, apply, analyze, evaluate, create*) PLOs most align with. Initial findings indicate that verbs associated with the cognitive process dimension *apply* were the most common across all colleges PLOs (n=354). The analysis can be used to inform discussions about PLOs and support refining or revising their PLO statements to create PLOs that are aspirational and achievable. From there, conversations about alignment (e.g., mapping curricula to ensure there are appropriate opportunities for students to learn and move toward mastery of outcomes) can develop. See Appendix D.

Recent assessment efforts by academic departments and special academic programs

The assessment coordinator consults with program / department faculty and staff to support their capacity to articulate program educational goals, identify learning outcomes and their indicators; map alignment between outcomes and opportunities-to-learn; and provide information to encourage the use of valid and reliable instruments with which to assess outcomes. Here we present a selection of recent assessment efforts, most conducted in collaboration with the assessment coordinator. Some were initiated by interest in structuring programs using the tools of assessment, others in the context of Cluster 3 program review.

Marine & Coastal Science: a new major with learning outcomes in its blueprint

Marine & Coastal Science is a new major that was approved by the Academic Senate in 2013 and first offered Fall 2013. The first freshman class entered the program in Fall 2015. The program is the first of its kind to offer students a truly interdisciplinary approach, incorporating the strengths of 6 departments representing three colleges and the Bodega Marine Laboratory. The major also bears the unique stamp of UC Davis in offering courses, fieldwork and research opportunities that highlight the terrestrial-marine interface, coastal issues, and human impacts on the marine environment.

To create a successful interdisciplinary program, MCS incorporated Program Learning Outcomes and assessment early on in the major development. Learning Outcomes were developed through a process that was supported by an Undergraduate Instructional Improvement Program Grant from the Center for Educational Effectiveness, which funded a graduate student to assist core MCS faculty in researching, developing, and approving Program Learning Outcomes. Through this process, the MCS program drafted Learning Outcomes, compared these to Learning Outcomes for other majors at UC Davis and other Marine Science programs around the country, revised and refined the Learning Outcomes, and acquired approval through all of the core faculty in the program. A second phase of this process was to align Program Learning Outcomes with a list of 14 'core' courses for the program. This was done through multiple rounds of faculty feedback and refinement, resulting in a matrixed set of PLOs with classes.

The complete Marine and Coastal Sciences assessment summary with PLOs is available in Appendix G1.

The Student Farm: learning outcomes and assessments in a special academic program

The Student Farm is one of twelve Special Academic Programs (SAPs) at UC Davis. These programs provide academic credit or experience to undergraduates, but are not administered within a major of an academic department and do not lead to a degree. They are regularly reviewed by the Academic Senate Special Academic Programs Committee. In 2016-17 The Student Farm engaged in extensive assessment activities which have yielded a structure and systems for the twelve or more internships they offer, that has proven highly beneficial. These activities are documented in Appendix G2.

Reports from UIPR Cluster 3

The first to complete the required program review question about assessment, the eight UIPR Cluster 3 programs employed a wide range of approaches and methodologies, which they shared at the Learning Outcomes Assessment Showcase. Here we summarize the approaches of three programs in the Division of Social Sciences, with reports linked in the Appendices.

Communication: launching a sustainable assessment program

Communication is a large, long-established major at UC Davis that faced very rapid growth in recent years. Creating a sustainable assessment program required a highly systematic approach and an investment in faculty. A newly hired LPSOE was assigned as lead for assessment activities; the department also had an involved assessment committee, and drew on support and best practices from the UE assessment coordinator. Their method involved refining PLOs to be more actionable, measurable, and clear; surveying all faculty to create a curriculum matrix using a numerical instrument; gathering the data into a single matrix and converting to a three-level scale of *(I)ntroduce*, *(P)ractice*, and *(D)evelop* mastery. Two courses that *(D)evelop* mastery were selected to pilot data collection and analysis. Communication is now taking steps to create a long-term assessment plan; continuing to collect, analyze and revise; and incorporating PLOs into syllabi.

See Appendix G3, "Five steps to launching a sustainable assessment program: a model from the department of communications."

Linguistics: developing and testing a methodology

In Winter 2014, faculty from the linguistics department undertook an assessment project funded by an Undergraduate Education Assessment of Student Knowledge (ASK) Grant (see Appendix F). The initial faculty group, comprising two faculty members and a graduate student funded by the grant, made a plan to develop a curriculum map, draft an assessment plan, create rubrics, and develop a plan for sampling student essays and other analytical assignments. They planned to examine one of the program's three PLOs each year, using the rubric to assess samples student-produced texts from specific core upper division course(s). While assessment of PLOs 2 and 3 did not take place in the following years due to competing priorities, the assessment of PLO 1 proved useful during Cluster 3 program review. The group presented their method and findings at the 2017 Learning Outcomes Assessment Showcase, and expressed increased interest and readiness to proceed with assessing PLO 2.

History: assessing student competence using capstone projects

The history department pursued assessment independently, using a minimum standard to review capstone projects, and examining indirect evidence including teaching evaluations and alumni survey data. Their report is available in Appendix G4.

In addition to these, several programs have created curriculum matrices included in Appendices H1-8.

Developing a culture of assessment

UE has engaged in activities to further the development of a culture of assessment at UC Davis, including a process of reflection and refinement with the Academic Senate, solicitation of feedback and advice from faculty and staff, and discussions with central campus and dean's office administrators about how to best support assessment activity. In 2016, in response to concerns from faculty and associate deans about the workload required of faculty undertaking student-learning assessment, we offered our college deans a cost-share (with half funding coming from the Provost) for staff positions that would be allocated to the colleges to support academic assessment in the departments. None of the deans, at that time, wanted to pay half of the cost. Thus, while we have not been able to seed additional staff support in the colleges for the work of assessment, we have focused on sharing information broadly with faculty and supporting them in learning and implementing best practice approaches. One way we have done this is through events where faculty and staff who are initiating assessment activities are encouraged to engage in dialogue with those who have previously completed assessment projects. These events have helped take some of the mystery out of assessment for faculty and staff who are not well-versed in assessment practices, and has begun to build a network of practitioners for mutual support and advice.

The campus celebrated its first annual [Assessment Showcase](#) on May 17, 2017. This half-day event was attended by faculty, staff, and administrators from across the campus. Eight programs from UIPR cluster 3 gave presentations describing their approach to assessment, and experience with the program review and assessment process. Many of the presentations focused on the results of their assessment activities. Just as importantly, they discussed challenges and barriers to successful assessment activities. The lessons learned from these discussions are being used currently as all of the responsible parties develop strategies to improve the campus' ability to support direct assessment of student learning. Post-event surveys indicated that the event was viewed as a valuable experience by a strong majority of the attendees. The main suggestions for improvement were to build in more time for peer-to-peer interaction and for panel-style question and answer sessions. The 2nd Annual Assessment Showcase is planned for May 2018.

Going forward

UC Davis's strategy is to continue to build upon our successes and learn from our mistakes. As a campus, we have made great progress on assessment of student learning. We are developing a culture in which an outcome- and evidence-based approach to teaching and learning is valued, and we are creating tools and resources that facilitate the process and engage faculty which is respectful of their expertise and the shared governance of our campus.

We anticipate that different programs will need different types and degrees of support to undertake assessment. For example, in anticipation of their Cluster 4 review, Psychology has recently completed an assessment of instruction regarding their *critical thinking* program learning

outcome using an externally developed instrument (see Appendix G5). This project was completed without any support from outside the department. Other programs need much more in the way of practical support and advice. Some of them are at a further disadvantage because they do not have access to student work, as core courses are sometimes taught by faculty in other departments or programs. UE is working with programs such as these to come up with robust assessment strategies such as e-portfolios that can overcome limitations of time and resources that represent barriers for smaller programs.

Continuing the development of technological tools

The campus will also continue to develop means to collect, store, and make available to interested parties the results of assessment activities. One element of this strategy is developing appropriate software tools such as the Canvas and CBS/LOCI tools. Another element of this strategy is to task the appropriate administrative authorities with ensuring that assessments are conducted, reported, and used to inform decisions about budget, curriculum, and instruction.

Continuing to build a community of practice

UE will continue to provide expert guidance and practical support for assessment activities. A well-attended monthly Assessment Symposium Series is underway. UE will continue to sponsor the Assessment Showcase as UC Davis builds up a community of practice. We expect that central support may become less critical as knowledge of best practices in assessment diffuses through these support networks.

Annual reporting on student learning in the colleges

The Deans and Associate Deans are aware that beginning Spring 2018, UE is providing annual reports to the colleges on student learning assessment occurring in their departments. These reports will explore, if relevant, whether departments that have undergone Academic Senate review (since the addition of direct evidence of student learning in 2016) have taken steps to improve student learning as a result of assessment findings. The Program Learning Outcomes Assessment Rubric will be used to evaluate annual assessment reports, which will be submitted through the LOCI tool, beginning with the programs in Cluster 3. (Anticipated start date is during Spring 2018.) The reports will be rated against the rubric and the results of those evaluations will be included in the annual metrics UE will provide to Deans of the undergraduate colleges.

Staff support for the work of assessment

It continues to be necessary to increase our campus capacity to support the work of assessment, if faculty are to undertake on a regular basis the work of meaningfully exploring student work and ensuring student learning is aligned with program and course level outcomes. Undergraduate Education continues to advocate for cost share of additional support positions, whether housed in UE or the colleges or at the professional staff or graduate student level, in assessment on our campus.

Update on the 2020 Initiative

The 2013 campus accreditation report presented the 2020 Initiative as the core document for essay 4, "Ensuring Institutional Capacity and Effectiveness in the Future, and Planning for the Changing Environment for Higher Education." With that in mind, we discuss the 2020 Initiative as well as other factors and revised plans for ensuring capacity and effectiveness.

The 2020 Initiative established an ambitious plan to admit an additional 5,000 undergraduate students, hire another 300 faculty, broaden our international reach, boost regional economic development, and provide a stable financial foundation for UC Davis. At its core, the Initiative sought to supplement declining state support of the campus with new resources—and thereby make it possible for a new generation of California, national, and international students to enjoy the benefits of a UC Davis education. A central principle of the initiative was that after it was finished, we would be better off as a campus community, not simply larger. To achieve these goals, we planned to:

- Generate opportunity, access, and an improved quality of student experience, through the addition of 5,000 more undergraduate students and commensurate growth in graduate student enrollment;
- Build a more diverse educational experience for students who would be future global leaders;
- Grow the faculty by 200 ladder faculty and 100 lecturers, to maintain student-faculty ratios; and
- Improve existing capital and other support infrastructure to sustain excellence (classrooms, faculty labs and offices, research cores and other research support).

To date, the 2020 Initiative has fulfilled its promise to a degree—the campus is better off than had we not embarked on the 2020 path. However, non-2020 related changes in state higher education funding practices and enrollment planning driven by political negotiations between the state and the UC led to faster than anticipated growth in numbers of California resident students, without providing sufficient funds to cover the true costs of accommodating that growth. As a result, some of the net revenue generated by the 2020 Initiative has been needed to accommodate the costs of that growth, and the campus still faces challenges in funding some of our aspirational goals.

Undergraduate enrollment

By 2017, UC Davis had already added 800 more California resident students than the total number of California residents planned through 2020-21. Enrollment growth unexpectedly has been front-loaded, as has a certain amount of growth in revenue. As a result, classroom, student housing, and student support resources face greater near-term challenges than expected. See Figures 6a and 6b.

Figure 6: 2020 Enrollments - trajectory v. actuals, all students

2020 Enrollments

Undergraduate Totals - Straight-line Trajectory v. Actuals
Total Undergraduate and California Residents
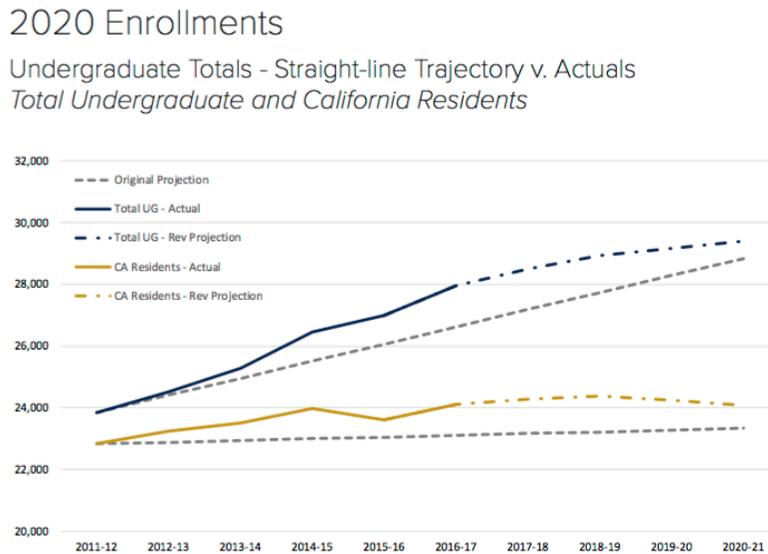
Figure 7: 2020 Enrollments - trajectory v. actual, national & international

2020 Enrollments

Undergraduate Totals - Straight-line Trajectory v. Actuals
National and International Students
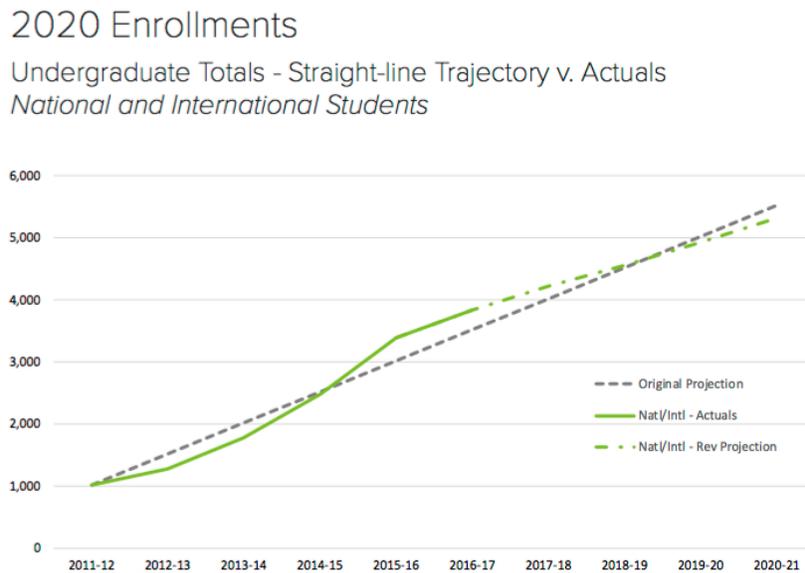
Ensuring a stable financial foundation

From a financial perspective, the 2020 Initiative as initially envisioned was expected to improve the financial circumstances of UC Davis through managed growth of both California resident students and national and international students. Coming after a period of significant state disinvestment in the University of California—and higher education in general—the addition of national and international students, who pay significantly higher tuition rates, while continuing to increase access for Californians allowed the campus to grow the tuition revenue stream.

Initial financial modeling suggested that not only could this 2020 growth-based revenue stream support the costs of increased enrollment; it could also net additional funds to invest in improving the existing campus programs and infrastructure. However, campus financial models at the time assumed annual modest tuition increases on par with the rate of growth in fixed costs, appropriate state investment in California resident enrollment growth, and that the campus would be able to follow the planned 2020 enrollment trajectory of California residents. In reality, during the implementation period, the UC Regents froze tuition increases for six years while fixed costs continued to rise, state investments were insufficient to cover fixed costs and state enrollment funding was at a lower rate per student than both the cost of additional enrollment and historical levels. Finally, over the past several years the state's involvement in enrollment planning required UC Davis to enroll more California students than planned under 2020, but did not provide the resources that cover the additional costs associated with these students.

The question arises of whether, if the campus had been aware in advance of the state-related issues raised above, and had done more substantial risk assessment of these issues, would it still have proceeded with the 2020 Initiative? On one hand, there is no doubt that without the additional revenue from 2020, drastic budget actions would have been required to deal with the ongoing fixed cost increases and mandated costs of enrolling additional underfunded California residents. However, the 2020 Initiative, while substantially increasing revenue, has also left the campus significantly dependent on nonresident enrollment. Clearly, future planning should include a more robust risk assessment (including an analysis of any current or future factors that might curtail the campus's continued access to high-quality nonresident applicants) and must acknowledge the limitations of increasing the non-resident population as a mechanism to increase revenue in the future, given our current cap of 18% on national and international enrollment (although we maintain hope that this might be increased in the future).

Even given these realities, the campus is better off financially than it would have been without the 2020 Initiative. Recurring annual revenue from supplemental tuition has increased by over $110 million since 2011-12 (from about $20 million annually to about $130 million annually—from 3% to 13% of total state funds and tuition revenue). Although the campus had to use much of the new funding—about $78 million—to support annual salary and benefit increases for existing faculty and staff, some much-needed new investments were possible.

During the implementation of the 2020 Initiative, campus leadership was acutely aware of the need to ensure that resources flowed to the academic units and other student-serving activities in order to support the significant pressure of enrollment growth while maintaining, to the extent possible, existing staff and service levels. During this period Academic units received cumulative budget allocations of:

- $34 million in ongoing funds through the campus budget model formula based on undergraduate teaching and enrollment metrics;
- $221 million in ongoing funding for investments in critical priorities and fixed cost increases for salaries and benefits to maintain staffing support; and
- Over $60 million in campus funded faculty start-up block grants.[3]

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[3] Excludes significant capital projects that were related to faculty hiring.

In addition, campus allocated over $55 million in central investments to support enrollment growth and related campus needs. This includes instructional needs funding to support expanded course offerings, instructional equipment replacement, classroom improvements and debt service associated with a new large classroom building, increased advising support and technology, other capital projects and maintenance needs, support for faculty hiring efforts, and expanding programs and services for students including honors, first year seminars, disability accommodation, and English language support.

As a result, for the past several years, the central campus intentionally managed an operating deficit of $25-30 million on state funds and tuition. This was a strategy to mitigate the impact of budget cuts and fixed cost increases that would otherwise have impacted *all* units ability to serve students. Until 2017-18, this deficit was offset on an annual basis from central reserves available from extraordinary investment gains.

In 2017, the campus implemented a number of actions to stabilize core funds. Viewed holistically, these actions reduce budgets by 1 to 2%. Steps to balance the budget included the recapture of one-time monies; base budget reductions; changes to the budget model; and recalibrating the Faculty Hiring Investment Program (HIP) and accelerated faculty salary parity programs. Even as campus proceeded with rebalancing, we continued to invest in critical programs, particularly those associated with hiring, classroom renovation, and technology.[4]

UC Davis is in the process of developing an enrollment plan for the next three years (2018-19 to 2020-21) that incorporates these new assumptions concerning expected California resident enrollment and the 18% nonresident cap. In addition to planning for the near term, we are in the early stages of creating a new strategic plan for UC Davis. This plan will chart a course for the next 10 to 15 years. While the specifics are not yet defined, it is reasonable to assume that many of our goals will remain constant: increase access for a diverse, high-quality student population; recruit and retain outstanding faculty; and do so in a way that supports the long-term financial sustainability of the university.

Development

With development funding playing an increasingly important role at universities nationwide, UC Davis' Office of Development and Alumni Relations (DEVAR) has expanded, and in FY17 had a record year raising more than $250 million from nearly 36,000 donors. New efforts include holding the first campus Give Day in concert with Picnic Day, which alone raised $1.2 million across all colleges, schools and units. DEVAR is continuing its Big Ideas campaign, in which 13 interdisciplinary, transformative ideas have the potential to become future fundraising priorities for the university's next comprehensive campaign.

Faculty growth and diversity: addressing student-faculty ratio

The Joint 2020 report posited that campus would increase faculty by approximately 220 ladder faculty to accommodate growth of 5,000 undergraduate students and associated growth of graduate students. The task force was aware that ladder faculty hiring would likely lag behind student growth at the beginning, for budgetary and other reasons.

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[4] 2017-18 Budget Framework Letter:
http://www.budget.ucdavis.edu/budget-planning/documents/2017-18/2017-18_Budget_Framework_Letter.pdf

To provide new faculty in proportion to the anticipated growth of new students, our 2020 hiring goals anticipated 200 net new ladder rank faculty and 100 net new lecturer positions at steady state. In addition, the provost established the Faculty HIP (Hiring Investment Program) with the goal of bringing an additional 60 net new faculty positions to UC Davis over six years. HIP supports additional opportunities for faculty hiring that either transcends the boundaries between traditional departments, schools or colleges, or extends the disciplinary range of an academic unit into critical new areas resulting in transformative augmentation of that unit. These combined efforts are anticipated to result in a total of 360 net new faculty by 2022-23, 260 ladder rank faculty and 100 lecturers.

Since the beginning of 2020, we have regularly assessed our hiring goals related to enrollment changes and tracked the net new ladder faculty hiring in the colleges. The following chart shows the current status:[5]

Figure 8: Actual and projected faculty growth
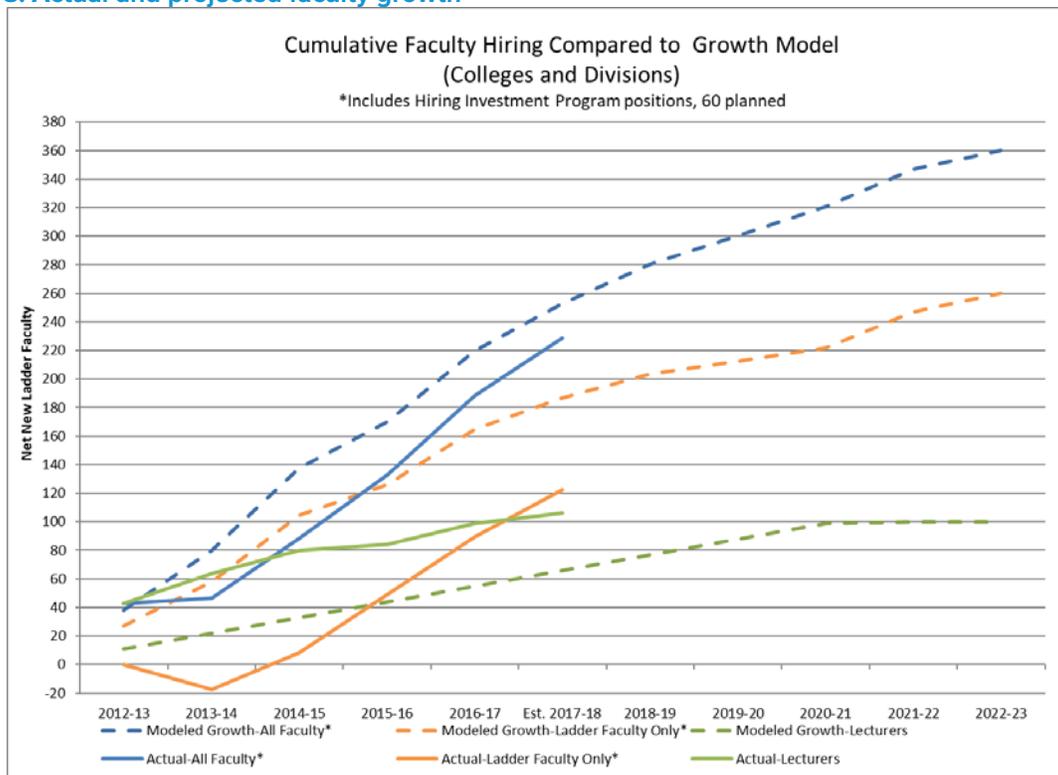
Hiring in the colleges

For the four general campus colleges, over the past seven years UC Davis has transitioned from experiencing a net loss of faculty to a net gain. To understand the trend, it is important to note that the 2010-11 budget reductions included a reduction in faculty positions through attrition, which units implemented over 2-3 years. This generally accounts for the low level of hiring during 2010-2014. Consistent with the projected 2020 enrollment growth, since 2014-15 the

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[5] 17-18 faculty hiring and lecturer data is preliminary. Also note that this chart only shows lecturer HC employed in the colleges, previous charts showed total lecturers.

colleges have experienced a cumulative net gain of approximately 140 ladder rank faculty.[6] Of this amount, 26 were HIP hires. In addition, approximately 100 cumulative lecturers were added during this period to support teaching.

Increasing faculty diversity and excellence

Guided by the University of California Academic Personnel Manual's "APM-500: Recruitment," UC Davis has taken significant steps toward increasing the diversity of applicant pools during this period of rapid faculty growth by enhancing central oversight of searches, adding features to the UC Recruit central hiring tool, and providing programs to support related recruitment and retention needs.

Changes to the faculty recruitment process

In October 2013, an Associate Vice Provost – Faculty Equity and Inclusion (AVP-FEI) position was established. Several changes were implemented under the first AVP-FEI, who was recently appointed Vice Provost for Academic Affairs. Faculty searches were augmented to include a shortlist review by the AVP-FEI, who works with the relevant college dean to ensure that searches recruit a diverse pool of qualified candidates. In 2014, UC Recruit, the academic application system, added diversity statements as an option that could be selected when setting up a recruitment. Effective July 2016, all Academic Senate recruitments require this document from all applicants; further, every Academic Senate recruitment is required to include a list of at least 8 prominent scholars who will be asked to suggest names of potential applicants from groups underrepresented within that area of scholarship or creative activity or within higher education. For recruitments open to ranks above the Assistant or Lecturer with Potential for Security of Employment (LPSOE), the search plan must include a list of at least 8 potential recruitment targets from underrepresented groups. In 2017-18, we are implementing a survey through UC Recruit to solicit feedback from faculty search committee chairs about the recruitment process and the university's efforts on increasing diversity.

ADVANCE grant programs

Under UC Davis ADVANCE, a five-year NSF ADVANCE Institutional Transformation Grant-funded initiative to increase the recruitment and retention of women and underrepresented minorities into the faculty, campus created the following programs:

- The Center for Advancement of Multicultural Perspectives on Science (CAMPOS) supports the hiring of Latina STEM scholars/faculty in a supportive, inclusive environment through mentorship and career success planning.
- The Strength through Equity and Diversity (STEAD) faculty search committee workshop program provide peer-to-peer presentations informing committee members about how bias can manifest in the search process and ways to minimize it. UC Davis committed additional financial support to extend the program beyond grant-funded STEM recruitments to all faculty search committees. STEAD training is now required for all recruitments.
- The Capital Resource Network (CRN) supports dual career opportunities outside of campus throughout the greater Sacramento region, and helps with integration needs of staff and academic UC Davis new hires.

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[6] Based on preliminary hiring data for 2016-17.

With the grant in a concluding phase of no-cost extension, UC Davis is institutionalizing these programs.

Faculty retention and equity

In AY 2015-16, UC campuses implemented a faculty salary equity program to help offset inequities accumulated over time based on either new faculty salaries being higher than those of existing faculty due to changes in market salaries, or from retention offers. Often, women are less likely to seek the outside offers from other institutions that typically result in retention salary increases. Compared to the prior 5 years, since 2015 when the equity program was implemented, the average annual ladder rank faculty resignations has declined by approximately 20%, from 15.8 to 12.5 annually.[7] UC Davis was recognized with a Seal of Distinction award for its worklife program supporting the needs of faculty who are starting families.

Academic support and student services

Academic advising

In addition to funding the costs of building a larger, excellent, diverse faculty and supporting an increased number of students, the 2020 plan led UC Davis to invest significant resources to improve academic advising. The Executive Director of Academic Advising, hired in 2014 as a new position to Undergraduate Education (UE), leads efforts to create campuswide improvements to technology, increase communication among advisors in the different colleges, and advance professional development for academic advisors in all colleges.

Figure 9: Student/Advisor ratios

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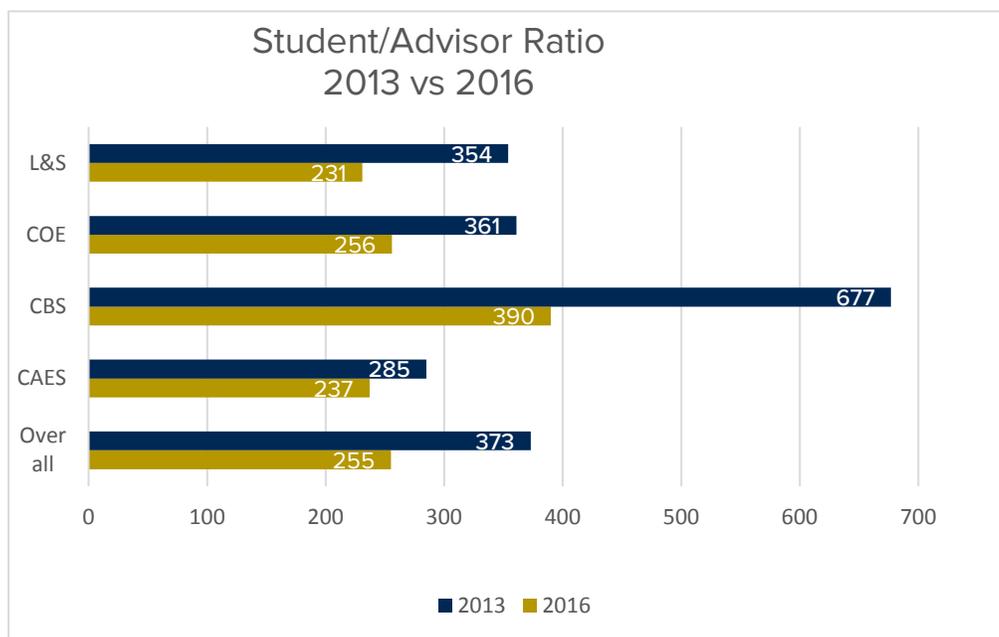
[7] Based on ladder rank resignations in all units except the School of Medicine (not eligible for the equity program), except resignations due to denial of tenure. Between 2010-11 and 2014-15 there were 79 resignations, average of 15.8 per year. In 2015-16 and 2016-17 there were 25 resignations, or 12.5 per year.

Since our last accreditation visit, a number of improvements have been made: we have provided better tools for students and advisors, enhanced access to academic advisors, increased comprehensive advisor training and developed an approach to advising assessment. In recognition of academic advising as a pivotal focus area, the Office of the Provost allocated more than $2.8 million in resources toward academic advising, which in partnership with significant investments at the college level, resulted in the hiring of 30 additional academic advising positions on campus. These new positions reduced the campuswide student/advisor ratio from 373/1 to 255/1, even while shouldering a 10% increase in undergraduate student enrollment over the same period, and enhancing advisor professional development (addressed below). These investments also allowed academic colleges to institute more proactive advising programs for all students. In addition, central campus invested over $1.5 million to create [MyDegree](#), a student- and advisor-facing degree planning tool that launched in the summer of 2017 to all undergraduate students and will be released to select graduate and professional programs over the coming academic year, building capacity for academic advising to focus more on holistic guidance and self-regulated learning, and less on prescriptive and informational content. Under the Executive Director's leadership, the Office of Academic Advising (OAA) established and carries out a [comprehensive training and development program](#) for campus advisors and coordinates advising initiatives and advising stakeholder groups. Continued efforts focus on broader campuswide advising metrics and assessment as well as the alignment of student advising outcomes.

Support for international students

In 2014 campus established an office of [International & Academic English](#) (IAE) within Undergraduate Education. IAE monitors incoming international enrollments to support planning, and reaches out to all incoming international students with critical information. IAE has developed the following programmatic supports:

- **Summer Start** pre-matriculation program for incoming international students to give academic, language, and cultural preparation. Ours is the largest such program in the UC system.
- **International academic advisors** in all colleges to support first-year international students.
- [Pre-Arrival Guide for International Students](#): IAE and its partners created a series of online modules helping to prepare students during the months between acceptance of the offer of admission and arrival on campus. Videos on choosing GE courses and placement testing, webinars with advisors, and development of the First-Quarter Course Recommendation Tool allow students to register correctly prior to arriving on campus.
- **Testing and training for international TAs:** IAE implemented mandatory testing (>90% completion rate in 2017) for all international-ESL TAs to ensure proficiency in spoken English; training is provided for those who do not pass.

Initiatives to support student retention and persistence

First Generation Initiative

In Spring 2017, UE launched the [First-Generation Faculty Initiative](#), creating a website with a searchable database listing UC Davis faculty who had been first-generation college students (participation is voluntary). The website also includes stories and resources. Concurrent with the website release, UE hosted a first generation faculty forum. The idea is that by creating dialogue and celebrating the accomplishments of our first-generation faculty, students can connect,

directly, or indirectly, with their instructors. The initiative is part of a systemwide effort to create awareness of first generation faculty. The initiative continues to grow, and has garnered national attention.

Student Retention Advisory Committee

In 2015, the Division of Student Affairs (SA) and the Office of the Vice Provost and Dean for Undergraduate Education (UE) formed the Student Retention Advisory Committee (SRAC). A collaborative body comprising faculty, students, and staff from the four undergraduate colleges, UE, and SA, the SRAC focused on identifying current and future strategies that positively impact the rate at which students persist toward a degree and graduate. The goals of the SRAC were threefold. First, to align the core values of the institutional mission—teaching, research, and service—to foster the academic success of all students. Second, to look comprehensively at the potential retention issues facing our students via the different lenses and perspectives offered by the various roles and responsibilities of committee members. Third, to provide actionable recommendations to campus leadership to implement or enhance student success-driven improvements guided by best practices.

Mindful of rapid enrollment growth among all student groups—particularly our first generation, low income, and historically underrepresented students—the SRAC had a keen focus on inclusively addressing the diversity of student needs, and formed three sub-committees, each charged with evaluating and formulating actionable recommendations for the consideration of the larger committee on 4-5 of the following topical areas addressing student characteristics, academic experiences, and co-curricular opportunities:

- Academic intervention process
- Case management
- English language learners
- First-year student development
- Holistic student needs
- Impact of instruction
- International students

- Integration of curricular and co-curricular opportunities
- Internship space
- Involvement in undergraduate research
- Second-year student experience
- STEM retention
- Transfer students

In addition, the SRAC engaged campus partners to explore pathways to establishing UC Davis as a High-Impact Practice/Program (HIP) campus in alignment with the guidelines produced by the Association of American Colleges & Universities (AAC&U). A set of themes emerged from the reports of the three sub-committees and the HIP group. The SRAC put forth seven actionable recommendations in order to build on the success of existing initiatives, facilitate the expansion of programs with greater potential to impact student success, and align and prioritize campus efforts with best practices. The campus has begun implementing several of these recommendations.

1. **Analysis and assessment**: Significantly enhance the availability of, and access to, data analyses at the course and programmatic level in order to evaluate and support High-impact Practices and improve student learning.

2. **Mandatory advising & case management**: Implement mandatory first-year academic advising for incoming freshman and transfer students; and establish a holistic case management system that partners faculty, advisors, counselors, special program staff, academic support staff, and students themselves to intentionally address student achievement and academic success.

3. **Program expansion**: Continue to support, expand, and assess potentially High-Impact Programs, including the following:
   - Biology Undergraduate Scholars Program (BUSP)
   - Career Discovery Group (CDG)
   - Center for Leadership Learning (CLL)
   - First-Year Aggie Connections (FYAC)
   - First-Year Seminars (FYS)
   - Language & Writing Support Services
   - Leadership in Engineering Advancement, Diversity and Retention (LEADR)
   - Student Academic Success Center (SASC)
   - Strategic Retention Initiatives & Centers (e.g. the African Diaspora, Chicanx & Latinx, and Native American Centers)
   - Student Community Center Programs & Activities
   - Student Living-Learning Communities (LLCs)
   - Transfer Support Services
   - Undergraduate Research Center (URC)
   - University Honors Program (UHP)

4. **Assess orientation & welcome opportunities**: Engage campus stakeholders, together with partners from the National Orientation Directors Association (NODA), to ensure that UC Davis' orientation programs introduce incoming students to the intellectual, cultural, and social climate of our institution.

5. **First-year engagement**: Implement a required first-year academic experience for all incoming freshman and transfer students that leverages the strengths of both faculty and staff.

6. **International and multi-lingual student support programs**: Review admissions criteria and implement programs that provide support services to enhance the academic experiences of international and multi-lingual students.

7. **Second-year program expansion**: Enhance and expand programs to continue student engagement via second-year experiences.

A cornerstone of the UC Davis campus is the shared commitment of staff and faculty to student success. The work of the SRAC takes critical steps to advance communication regarding the programs, initiatives, and opportunities that influence the learning and academic achievements of our students, and ultimately, their journey across the commencement stage.

Investments in High-Impact Practices

Guided by the work of the SRAC and the [AAC&U's High-Impact Practices (HIP)](#) framework, the campus is implementing a HIP model for UC Davis. HIPs are identified as such when students are involved and engaged in activities defined as "active learning practices." In order to be responsive to student learning and engagement needs, campus launched an initiative in October 2017 to identify the current HIP programs at UC Davis. Through this initiative, the campus will

evaluate whether current (and aspiring) HIP programs have the necessary infrastructure and assessment tools to be successfully identified as HIPs. The committee will also explore additional opportunities to implement HIP across the campus where active learning, high engagement, and cumulative learning will produce beneficial outcomes for student retention and success. Examples of HIPs include, but are not limited to: First-Year Seminars, Living Learning Communities, service learning, undergraduate research with faculty, internships, and writing intensive courses. The following is a list of expanded HIP activities at UC Davis:

- During 2016-17, campus offered 304 first-year seminars enrolling 4,026 students, representing a 77% increase in the number of seminars offered and 65.8% enrollment increase over two years.
- The 2017 Undergraduate Research & Creative Activities Conference grew by 38% over the previous year, engaging 715 student presenters, 396 faculty sponsors, and 111 moderators from campus faculty and leadership.

The full report of the Student Retention Advisory Committee can be found in Appendix I.

Assessment of student retention initiatives

In 2017, the Division of Student Affairs produced a UC Davis Diversity and Inclusion Strategic Vision. In support of that vision, Student Affairs has taken several steps to understand how their services drive student persistence, particularly among subpopulations whose outcomes fall below institutional averages. The Center for Student Affairs Assessment (CSAA) was established in 2014 to foster a culture of research-based practices to improve the student experience and enhance student learning in the division's programs. Through research-based practices, evaluation, assessment, and service development techniques, CSAA monitors the impact of services that positively influence a student's success, and has undertaken a long-term research and assessment plan that identifies environmental factors contributing to positive retention, unit progress, and on-time graduation outcomes, and the ways in which those factors are (or may be) modulated by services, resources, and programs offered to students by the University. CSAA's report is included in Appendix J1. The Student Academic Success Center has provided a report on Academic Assistance and Tutoring (Appendix J2).

Instructional capacity

As is the case at most institutions that realize significant, sustained student growth, UC Davis has been challenged by the realities and consequences that have attended this growth. In the sections that follow, we discuss the impact of growth on course impaction, classroom utilization, student housing, and capital improvements. In addition, the environment in which UC Davis is operating has been changing dramatically in ways that put pressure on cost, available resources, recruitment, and revenue (among other factors) in myriad ways. We conclude by briefly describing the next stage of institutional planning that will be required to acknowledge and respond to the array of external factors that compound institutional challenges and influence strategic planning going forward.

Course impaction

In the period from 2010-2014, some units experienced an increase in student credit hours per ladder rank faculty (e.g., the College of Engineering; College of Biological Sciences), while others were stable (e.g., the Division of Social Sciences), and still others saw modest declines (e.g., the

Division of Humanities, Arts, and Cultural Studies). One specific discipline, Computer Science, saw extremely rapid enrollment growth. The university decided to cap enrollment in that major to limit the impact of enrollment growth on access to courses. Despite this action, Computer Science courses had substantial wait lists. To improve the situation, the campus has dedicated substantial new resources to Computer Science. In 2015-2016, the Department hired seven new ladder rank faculty. This increase in FTE will allow the department to offer many more sections of core computer science courses going forward, which should in turn alleviate impaction in the discipline.

The university has an Instructional Needs Funding program that funds additional sections of courses as needed when enrollment growth overtakes capacity. Colleges may apply for instructional needs funds at any time. UE helps associate deans in the colleges monitor course enrollments so that sufficient sections are offered. In addition, the newly implemented Course Works package will allow BIA to project future enrollments more accurately, so that colleges and departments have more time to plan and prepare for enrollment growth.

Facilities: classroom space and capital improvements

UC Davis's substantial recent growth has created pressure on classroom space, particularly the largest lecture halls. The campus is responding by investing in additional classroom seats through both new construction and renovation of existing buildings and upgrading existing classrooms to enhance the student and faculty experience.

More than 490 new classroom seats have opened since Fall 2016. Through Spring 2019, an additional 1,300 seats will be constructed with California Hall at 579 seats opening Summer 2018, and Walker and Cruess Hall renovations totaling 740 seats completing in Spring 2019. In Fall 2016, the campus earmarked $20 million for floor-to-ceiling renovations, technology and equipment upgrades, and building refresh in its existing general assignment classrooms. Since Fall 2016, $8 million has been spent. A new Teaching and Learning Complex currently in the programming phase will add approximately 2,000 seats. The Complex will provide many flexible learning spaces including those in large lecture halls. Projected completion is Summer 2021.

Classroom building targets have been informed by a new dashboard, using a model based on room size categories instead of the total number of seats or square footage. Two types of use are considered: capacity utilization and time utilization.

To predict the viability of current space use to reflect future growth, the classroom utilization model assumed the same use of each classroom but grew capacity based on expected future growth of 7% between Fall 2017 and Fall 2030. Furthermore, UC Davis has rooms under construction or pending construction in three of the room size categories and these were also incorporated into the model.

Based on this and construction projects already in progress, UC Davis determined that building an additional large classroom of about 425 seats, two classrooms of about 150 seats, and 15 additional classrooms that seat less than 50 seats will ensure that UC Davis's classroom space will accommodate increased growth in students while allowing adequate flexibility to address maintenance or renovation needs.

Table 2: Classroom capacity utilization adjustments

Size category	Capacity Utilization Fall 2016	Capacity Utilization at 2030 w/BIA recommendations
Over 500	.89	.76
301 to 500	.79	.68
201 to 300	.78	.69
101 to 200	.75	.73
51 to 100	.63	.54
26 to 50	.59	.63
16 to 25[8]	.76	.65

Capital projects completed since the last WSCUC campus visit

New teaching and learning spaces

The Ann E. Pitzer Center – Completed September 2016, the center has a 399-seat recital hall that can be used for lectures. Additional practice and teaching classrooms house instruments. The International Center Phase 1 – Completed August 2016, the center provides classrooms, events spaces, and offices housing Global Affairs and University Extension. The Manetti Shrem Museum of Art – Completed August 2016, the museum is also a teaching facility for the entire community, providing space for galleries, seminars, research and public gatherings.

New housing

Tercero Student Housing Phase 4 provides 500 additional beds and living facilities for incoming freshmen. The $59.1 million Tercero 4 complex of three residence halls and a community building is home, beginning Fall 2017, to about 605 students and is part of the most ambitious housing construction program in UC Davis history. Reflecting the university's commitment to sustainability, the new complex is expected to be the seventh Student Housing and Dining Services project, and 28th overall across the university, to receive certification under the Leadership in Energy and Environmental Design Program of the U.S. Green Building Council. Tercero Student Housing Phase 3 was completed July 2014, this LEED Gold-certified residence hall provides 1,200+ beds, a 200 seat classroom, and services spaces for freshmen. Eighth and Wake, completed August 2014, provides off-campus additional housing for 238 students.

Next steps for 2020

Although the 2020 Initiative has helped the campus fulfill, in some measure, the promise that managed growth would improve the financial circumstances and educational objectives of the university, challenges have arisen that require further consideration. Assumptions that undergirded 2020 planning have evolved in some unanticipated directions. Further, the State of

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[8] The recommendation is for "classrooms that seat at least 19 students". This could mean that many or all of these rooms are in the 26 to 50 range. However, we are reducing the utilization only for the 16 to 25 range based on a minimum of 15 additional classrooms of 19 seats each.

California has required that we enroll more California students than called for by the 2020 plan, but has not provided resources that cover the additional cost. These changes have implications for the quality and sustainability of UC Davis as a public research university.

Specifically, UC Davis has already enrolled nearly 650 more California residents than planned through 2020-21. The 2020 plan also modeled the assumption that tuition would increase slightly each year. Instead, tuition was held constant from 2012-13 to 2016-17. More recently, the University of California Regents voted to cap national/international undergraduate enrollment at 18% at some campuses, including Davis. Our original 2020 enrollment models assumed that the proportion of national/international undergraduates would be between 20 and 23%.

Although the 2020 plan was designed to achieve a balanced revenue picture by 2020, the result of the changes mentioned above is that the overall financial picture is not what was originally envisioned (albeit better than it would have been without 2020). Therefore, we are in the process of developing an enrollment plan for the next three years (2018-19 to 2020-21) that incorporates these new assumptions concerning expected enrollment and the 18% nonresident cap. In addition to planning for the near term, we are in the early stages of creating a new strategic plan for UC Davis. This plan will chart a course for the next 10 to 15 years. While the specifics are far from defined, it is reasonable to assume that many of our goals will remain constant: increase access for a diverse, high-quality student population; recruit and retain outstanding faculty.

As we approach this task, our enrollment must pursue long-term financial stability within significantly different operating parameters. Included in these factors are some of the consequences of recent growth which contributed to inadequate classroom and laboratory facilities that sometimes hinder the ability of the campus to achieve the fullest impact of its teaching and research mission. Operating constraints imposed by the state's limited investment require continuously reinventing the campus's operations for greater efficiency. Campus administration will continue its efforts to maintain sustainable growth within the parameters of the campus's mission-driven priorities in partnership with the Academic Senate, as UC Davis charts a course for the future.

Identification of other campus changes and new initiatives

The arrival and investiture of our new chancellor brings cause for optimism to the Davis campus. In October 2017, Chancellor May launched a new, 10-year strategic planning process—named To Boldly Go: A Strategic Vision for the Future of UC Davis—for administrators, faculty, students, and staff. The first phase of the forward-looking campaign invites the Davis community to contribute creative and bold ideas that will propel the campus forward in our efforts to provide better access to California students, to establish a diverse thought community that represents the demographics of the state, to strengthen our research expertise, and to enhance our presence in the greater Sacramento area. The goal of To Boldly Go is not just to develop a next level strategic plan for the university, but to show the nation that UC Davis is a powerhouse of innovation, addressing climate change and other environmental challenges.

As is true of many public universities, our financial picture presents ongoing challenges as state support decreases. We are addressing these challenges. We envision bringing change and opportunity to UC Davis via Aggie Square. A new program for regional engagement, our vision

brings together three pillars—a world class university, a world class city, and a thriving business community—in a transformative initiative and partnership for UC Davis, the city of Sacramento, and the entire region. Launched in partnership and in collaboration with Sacramento Mayor Darryl Steinberg, Aggie Square looks to develop a downtown Sacramento location for UC Davis that will foster the development of research relationships with companies, creates new opportunities for internships and career paths, and generates new resources for the campus, the city, and the region. Such an enterprise will give our students and companies better access to one another for employment opportunities, making it easier for companies to collaborate on research with our faculty, our postdocs and our graduate students.

Our Big Ideas capital campaign, currently in its quiet phase, focuses on developing those areas where UC Davis can build its reputation as an innovative, problem-solving university—from carbon neutrality to pain relief to violence prevention. As envisioned by our campus team, these Big Ideas are transformational, single-concept ideas that build on the strength and foundation at UC Davis, but move toward something more leading edge. They are interdisciplinary or have an interdisciplinary impact in an area where we have the unique capacity to be the best. Lead by a steering committee comprised of deans, select administrators, and faculty, the Big Ideas campaign is a strategic approach to building development and future resources for the campus.

We are also implementing long range plans for the campus that directly impact students. Chancellor May has identified housing and transportation as key challenges for UC Davis. It is crucial that we ensure our students have access to housing so they can focus on their studies. As a result, we are raising our goal for new on-campus student housing in the Long Range Development Plan from 6,200 to 8,500 beds. We recognize the importance of affordable housing and are striving to make new options as affordable as possible through increased density, efficient design and a variety of unit types. This housing plan significantly exceeds our planned enrollment growth and could provide many options for future students to live on campus with close access to our academic resources.

Behind all of these ideas are values. Across initiatives, we are strengthening the diversity of ideas generated in our community and the humanity that enables us to use those ideas to create a healthier and more equitable world. We are developing an increasingly international student body and emphasis on global education in order to graduate globally aware citizens. Necessary faculty growth, as referenced in this report, allows us to be deliberate about increasing diversity so that our ideas can be of greater value to society. And we are connecting to our unique first-generation culture, one where nearly half of our students are the first in their families to achieve a college education and where 400 of our faculty have shared that experience. Part of a UC-wide movement, our First-Generation Faculty Initiative, designed to increase students' sense of belonging and graduation persistence by making them aware that their faculty have faced and overcome similar challenges, has the highest faculty participation in the system.

There are challenges ahead. And there is optimism. We are ready to move forward with significant pride in who we have been, and who we are becoming, as we face those challenges head on. We will go, as our chancellor likes to say, boldly.